



CULTMATRIX..

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Our reference: 2008/69
9 November 2010

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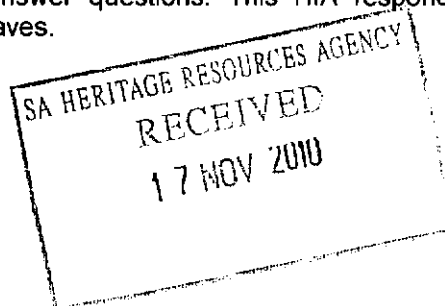
Dear Andrew

SUBMISSION OF FINAL HERITAGE IMPACT ASSESSMENT REPORT: PROPOSED NEW TAILINGS STORAGE FACILITY (TSF) FOR GOLD FIELDS IN THE WESTONARIA AREA, GAUTENG PROVINCE

1. I am hereby submitting the main HIA report, accompanied by the archaeological and palaeontological reports (bound together and submitted separately), to your office for noting and comments.
2. These reports have also been submitted to the Gauteng Provincial Heritage Resources Authority for consideration and project authorisation, and to the SAHRA Burial Grounds and Graves Unit for noting and comments.
3. Note that the proposed TSF will not directly affect any graves or other known burial sites. However, it is located adjacent to the Doornkop TSF, where a small number of graves is/was apparently exhumed and relocated, involving I believe Professional Grave Solutions.
4. The proposed TSF will affect a few small sites associated with the Late Iron Age. These sites are part of a large band of sites that stretch from the Gatsrand past Fochville to the Klipriviersberg. The AIA report recommends mapping and sampling before destruction.
5. Note that archaeological reports exist for developments that were contemplated in the past, affecting the broader area. I have been informed that SAHRA has not yet a system in place that allows access to the reports. Page 46 of the main HIA contains a list of these reports.
6. Extensive public participation for both the environmental, social and heritage scoping and impact assessment phases was conducted by the EIA consultants and a summary is included at the back of the main HIA report, as well as copies of relevant pages of the Comments and Responses report in which reference is made to heritage features, in particular to graves. The full Comments and Responses report is too long (113 pages) for inclusion. As part of this public participation process two public open days were held, at which I was present to inform interested and affected parties about heritage issues, note concerns and answer questions. This HIA responds to comments and issues, most of which were related to graves.

Sincerely

DR ROBERT DE JONG
Public Officer and Principal Investigator



HERITAGE: IMPACT ASSESSMENTS, RESEARCH, MANAGEMENT AND TOURISM

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**FINAL HERITAGE IMPACT ASSESSMENT REPORT:
PROPOSED NEW TAILINGS STORAGE FACILITY IN THE
WESTONARIA AREA, GAUTENG PROVINCE**

SUBMITTED FOR CONSIDERATION TO:
Gauteng Provincial Heritage Resources Authority
SAHRA Burial Grounds and Graves Unit
SAHRA Archaeology, Palaeontology and Meteorites Unit

On behalf of
EnviroServ Waste Management (Pty) Ltd
Our reference number
2008/69
Date
13 October 2010



CULTMATRIX^{cc}

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ACRONYMS

Acronym	Description
AIA	Archaeological Impact Assessment
HIA	Heritage Impact Assessment
NHRA	National Heritage Resources Act
PHRAG	Gauteng Provincial Heritage Resources Authority
PIA	Palaeontological Impact Assessment
SAHRA	South African Heritage Resources Agency
TSF	Tailings Storage Facility

GLOSSARY OF TERMS USED IN THIS REPORT

Cultural significance (Burra Charter)

Aesthetic, historic, scientific, social or spiritual importance, meaning or noteworthiness for past, present or future generations

Cultural significance is embodied in the place itself (intrinsic significance), its fabric, setting, use, associations, meanings, records, related places and related objects

Heritage resources/features (NHRA)

Any place or object of cultural significance, including:

- (a) places, buildings, structures and equipment of cultural significance;
- (b) places to which oral traditions are attached or which are associated with living heritage;
- (c) historical settlements and townscapes;
- (d) landscapes and natural features of cultural significance;
- (e) geological sites of scientific or cultural importance;
- (f) archaeological and palaeontological sites;
- (g) graves and burial grounds, including—
 - (i) ancestral graves;
 - (ii) royal graves and graves of traditional leaders;
 - (iii) graves of victims of conflict;
 - (iv) graves of individuals designated by the Minister by notice in the *Gazette*;
 - (v) historical graves and cemeteries; and
 - (vi) other human remains, which are not covered in terms of the Human Tissue Act, 1983 Act No. 65 of 1983);
- (h) sites of significance relating to the history of slavery in South Africa;
- (i) movable objects, including—

- (i) objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;

- (ii) objects to which oral traditions are attached or which are associated with

living heritage;

(iii) ethnographic art and objects;

(iv) military objects;

(v) objects of decorative or fine art;

(vi) objects of scientific or technological interest; and

(vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

Heritage significance (NHRA)

(a) its importance in the community, or pattern of South Africa's history;

(b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;

(c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;

(d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;

(e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;

(f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;

(g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;

(h) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and

(i) sites of significance relating to the history of slavery in South Africa.

Historic period

Since the arrival of the white settlers - c. AD 1840 in this part of the country

Impact

A description of the effect of an aspect of the development on a specified component of the biophysical, social or economic environment within a defined time and space

Impact assessment

Issues that cannot be resolved during screening (Level 1) and scoping (Level 2) and thus require further investigation

Iron Age

Early Iron Age (EIA) AD 200 - AD 1000

Late Iron Age (LIA) AD 1000 - AD 1830

Issue

A question that asks what the impact of the proposed development will be on some element of the environment

Maintenance

Keeping something in good health or repair.

Management actions

Actions that enhance benefits associated with a proposed development or avoid, mitigate, restore, rehabilitate or compensate for the negative impacts

Preservation

Conservation activities that consolidate and maintain the existing form, material and integrity of a cultural resource.

Reconstruction

Re-erecting a structure on its original site using original components.

Rehabilitation

Re-using an original building or structure for its historic purpose or placing it in a new use that requires minimal change to the building or structure characteristics and its site and environment.

Restoration

Returning the existing fabric of a place to a known earlier state by removing additions or by reassembling existing components.

Stone Age

Early Stone Age (ESA)	2 000 000 - 150 000 Before Present
Middle Stone Age (MSA)	150 000 - 30 000 BP
Late Stone Age (LSA)	30 000 - until c. AD 200

Value

Worth, conservation utility, desirability to conserve etc in terms of physical condition, level of significance (importance), economy (feasibility), possible new uses and associations/comparisons with similar features elsewhere

EXECUTIVE SUMMARY

This report contains a Heritage Impact Assessment in accordance with the provisions of Section 38(1) of the *National Heritage Resources Act (25/1999)*. It includes archaeological issues insofar that various ruins of Iron Age and farming origin were identified. It also includes built environment issues.

The investigation was carried out by an independent generalist heritage practitioner, RC de Jong (Cultmatrix cc).

This report is accompanied by a separate Archaeological Impact Assessment (AIA) Report (desktop study based on work for other developments in the same environment), prepared by Archaetnos, as well as a separate Palaeontological Impact Assessment Report (PIA), prepared by Prof. B Rubidge.

The AIA finds no compelling motivations against the proposed TSF but recommends two mitigation scenarios, of which the second one (mapping and sampling before destruction) is supported, because the first scenario (protection) is not feasible.

The PIA (a desktop study) found that the development site is not known to contain any fossils and recommends that the proposed TSF may proceed.

Tailings (also known as slimes, tailings pile, tails, leach residue, or slickens) are the materials left over after the process of separating the valuable fraction from the worthless fraction of gold ore. The extraction of gold from ore requires that the ore be ground into fine particles, so tailings are typically small and range from the size of a grain of sand to a few microns. Gold-mine tailings are usually produced from the mill in slurry form (a mixture of fine mineral particles and water). A Tailings Storage Facility (TSF) is often the most significant environmental liability for a mining project.

The proposed TSF is located on portions of the farms Doornpoort and Kalbasfontein east of Fochville and south of East Driefontein, Glenharvie and Westonaria in the Gauteng province. It borders on the Doornpoort TSF that is already under development.

The proposed change of land use affects an irregularly shaped area. As a cultural landscape this flat environment can be classified as a relic landscape (former farm land) comprising a flat area that gently slopes up towards the north, with sparse clumps of indigenous and exotic trees, fences, tracks, remains of fields, grazing areas, farm dams, cemeteries, farmsteads and a low ridge in the east.

The corner co-ordinates are:¹

A -26.455572° 27.638064°

B -26.469647° 27.633778°

C -26.472300° 27.651842°

D -26.482478° 27.658706°

E -26.485931° 27.673239°

F -26.476648° 27.687803°

G -26.463458° 27.677114°

H -26.455689° 27.670069°

J -26.449975° 27.652197°

The intended development provided the following “triggers” for a heritage impact assessment:

- Development larger than 5000 sq m (proposed TSF)
- Buildings older than 60 years
- Archaeological sites
- Burial grounds and graves

The HIA investigation was conducted as follows:

- Desktop study, including perusal of existing other reports and general documents about the broader area
- Field surveys in June and November 2009
- Information obtained from local farm workers and local farmers (the latter during two public open days)

¹ Created by the author of this report based on information provided by the client

Heritage impacts are categorised as:

- Neutral (no impact)
- Direct or physical impacts, implying alteration or destruction of heritage features within the project boundaries
- Indirect impacts, e.g. restriction of access or visual intrusion concerning the broader environment
- Cumulative impacts that are combinations of the above

The predicted heritage impacts are low to medium negative since various heritage resources of significance were identified and will be irreversibly affected. Visual impacts are of less importance because the area north of the development site has been partially transformed by existing TSFs. A separate visual impact assessment was done for the proposed TSF.

Management of impacts is aimed at conserving the significance of affected heritage resources and can be managed through one or a combination of the following measures, as encapsulated in the Burra Charter:²

- Mitigation (minimising adverse impacts through further documentation and research as well as monitoring before a place is altered or destroyed)
- Avoidance
- Compensation (balancing of making good the destruction of one heritage feature by the preservation of another one)
- Enhancement (positive impacts on heritage features)
- Rehabilitation (re-use of preserved heritage features)
- Interpretation (providing information on heritage features)
- Memorialisation (retaining the memory of heritage features that have been destroyed)
- No action

² ICOMOS Australia (1999) *The Australia ICOMOS Burra Charter for the conservation of places of cultural significance*.

- Relocation (historic equipment, graves)
- Alternatives

Of the above measures, “no action”, relocation and mitigation apply in the case of this project.

With regard to the proposed TSF site, this report complies as follows with the provisions of Section 38 (3) of the *National Heritage Resources Act* (Act 25 of 1999) (NHRA):

(a) Identification and mapping of heritage resources

(b) Cultural significance

(c) Predicted impacts

(f) Recommended impact management measures

TABLE 1: Identification of heritage features, impacts and management measures

S 3(2) NHRA heritage resource	(a) Identification		(b) Significance	(c) Impact		(d) Recommended impact management
	Site	GPS		Study area	Impact type, certainty and significance	
Buildings, structures, places and equipment of cultural significance	FR 1: Historic farm building	-26.459747° 27.632567°	Medium local	Outside and west of Doornpoort TSF	Neutral	Avoidance and preventative mitigation: Document (plans, elevations, photos) and monitor for damage during construction and operation of Doornpoort TSF
	FR 2: Doornpoort homestead ruin	-26.466258° 27.636082°	Low local	Outside and west of Doornpoort TSF	Neutral	Avoidance if possible. If demolition is necessary: NHRA Section 34 demolition permit application
	FR 8: Old reservoirs, kraal, walls	-26.471632° 27.674598°	Low local	New TSF	Definitely low negative	No action – not much left
	FR 9: Structure ruin	-26.476349° 27.675603°	Low local	New TSF	Definitely low negative	No action – not much left
	FR 10: Structure ruin	-26.477292° 27.677846°	Low local	New TSF	Definitely low negative	No action – not much left

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S 3(2) NHRA heritage resource	(a) Identification		(b) Significance	(c) Impact		(d) Recommended impact management
	Site	GPS		Study area	Impact type, certainty and significance	
	FD 2: Doornpoort farmstead	-26.462316° 27.630845°	Low local	Outside Doornpoort TSF	Neutral	No action
	FD 1: Kalbasfontein farmstead	-26.476081° 27.685400°	Low local	New TSF	Definitely low negative	
Areas to which oral traditions are attached or which are associated with intangible heritage	None	-	-	-	-	No action
Historical settlements and landscapes	None	-	-	-	-	No action
Landscapes and natural features of cultural significance	None	-	-	-	-	No action
Geological sites of scientific or cultural importance	None	-	-	-	-	None
Archaeological and palaeontological sites	Chance finds	Unknown	Low local?	All	Unknown	Mitigation: Report and evaluate any graves or archaeological features and artefacts when found
	AR 1: Late Iron Age structure	-26.478198° 27.675848°	Medium local	New TSF	Definitely low negative	Mitigation: Mapping and drawing the sites (together one composite site) in detail to determine settlement layout and extent. Once this has been completed archaeological excavations have to be conducted in certain sections of the settlement complex to recover as much cultural material as possible to help with the
	AR 2: Late Iron Age structure	-26.479309° 27.678332°	Medium local	New TSF		
	AR 3: Late Iron Age structure	-26.479867° 27.679946°	Medium local	New TSF		
	AR 4: Late Iron Age structure	-26.477052° 27.673989°	Medium local	New TSF		
	AR 5: Late Iron Age	-26.480359° 27.681242°	Medium local	New TSF		

S 3(2) NHRA heritage resource	(a) Identification		(b) Significance	(c) Impact		(d) Recommended impact management
	Site	GPS		Study area	Impact type, certainty and significance	
	structure					interpretation of the Late Iron Age in the area. Once these investigations have been completed the sites can be destroyed. For both the archaeological investigations and the destruction of the site, permits from the South African Heritage Resources Agency (SAHRA) will have to be obtained.
Graves and burial sites	G 3: Doornpoort graves	-26.461219° 27.640440°	High local	Doornpoort TSF	Definitely high negative	Mitigation: Relocate (in process)
	G 2: Doornpoort graves	-26.459442° 27.634313°	High local	Doornpoort TSF	Neutral: Outside Doornpoort TSF	Mitigation and avoidance: Document, protect, monitor
Features associated with labour history	None	-	-	-	-	No action
Movable objects	None	-	-	-	-	No action

(d) Social and economic benefits (NHRA Section 38(3))

The development will have no direct benefits related to the conservation of heritage resources since it is possible that these either may not be affected or may be destroyed. Indirect benefits are associated with generating and disseminating new historical information and could include:

- Recording of ruins older than 60 years before demolition plus checking for old rubbish dumps
- Mapping and sampling of archaeological structures (will generate new information about such sites)
- Photographic recording of other features before demolition

The socio-economic benefits of the proposed development are associated with the more effective and efficient treatment and storage of tailings from gold-mines that will have a safety, health and environmental benefit to the work force and the neighbouring communities.

(e) Public consultation (NHRA Section 38(3))

This was part of the EIA process. Appendix 3 contains a summarised report. Both the heritage scoping report and the draft HIA report were available for comments during the public participation process and were presented during two public open days.

(g) Mitigation during construction

Except for monitoring of chance finds during site preparation and construction work, no further mitigation measures apply.

General findings and recommendations

The recommendations contained in this HIA report have been included in the Environmental Impact Assessment Report (Reference: 12/12/20/1451).

Based on the findings, Cultmatrix states that there are no compelling reasons or fatal flaws that may go against the proposed TSF development from a heritage perspective. The nature and significance of what has been found in terms of heritage is not of such importance that the proposed development area should be changed or that an alternative TSF site should be considered.

The following general recommendations to effect the authorisation of the proposed development by SAHRA and PHRAG apply:

1. Site preparation activities must be monitored for the occurrence of any other archaeological material (historic waste disposal sites etc) and similar hidden/buried chance finds and an archaeologist should be asked to inspect the area when this has reached an advanced stage in order to verify the presence or absence of any such material.

2. Heritage features older than 60 years (some of the FR sites) that need to be demolished must be fully documented before demolition.
3. The archaeological features that may be affected (AR sites) should be mapped and sampled by an archaeologist (accredited by the Association of South African Professional Archaeologists) before destruction subject to the approval of NHRA Section 35 permits by SAHRA.
4. Graves (G sites) in burial grounds that cannot be preserved should be relocated. Graves younger than 60 years may be relocated by a registered undertaker; those older than 60 years by an accredited archaeologist.
5. A Heritage Conservation Management Plan must be compiled to ensure the continued preservation of those heritage features that will remain (during and after construction), in particular Grave site 2 and FR 1.



(Signed electronically)
RC DE JONG
Public Officer and Principal Investigator

Date: 20 September 2010

1. INTRODUCTION

1.1 General notes

1. The structure of this report is based on:

- SOUTH AFRICAN HERITAGE RESOURCES AGENCY, Heritage Impact Assessment: Notification of intent to develop (form)
 - DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND DEVELOPMENT PLANNING, PROVINCIAL GOVERNMENT OF THE WESTERN CAPE, 2005, Guideline for involving heritage specialists in EIA processes (document)
 - DEPARTMENT OF ENVIRONMENT AFFAIRS AND TOURISM, Integrated Environmental Management Guidelines
 - SOUTH AFRICAN HERITAGE RESOURCES AGENCY, 2006, *Minimum standards: Archaeological and palaeontological components of impact assessment reports* (unpublished).
 - PHRAG guidelines for HIA reports (unpublished)
 - WORLD BANK, *Environmental Assessment Sourcebook Update No 8, September 1994: Cultural Heritage in Environmental Assessment*.
 - Best-practice HIA reports submitted by Cultmatrix and other heritage consultants
2. This report is informed by the *National Heritage Resources Act (25/1999)* (NHRA) and is consistent with the various ICOMOS charters for places of cultural significance.
3. Recommendations contained in this application do not exempt the applicant from complying with any national, provincial and municipal legislation or other regulatory requirements, including any protection or management or general provision in terms of the NHRA.

4. Rights and responsibilities that arise from this report are those of the applicant and not that of Cultmatrix cc. Cultmatrix cc assumes no responsibility for compliance with conditions that may be required by SAHRA in terms of this report.
5. Cultmatrix assumes no responsibility whatsoever for any loss or damages that may be suffered as a direct or indirect result of information contained in this application. Any claim that may however arise is limited to the amount paid to Cultmatrix for services rendered to compile this report.
6. Although all possible care is taken to identify all sites of cultural importance during the survey of study areas, the nature of archaeological and historical sites is as such that it always is possible that hidden or subterranean sites could be overlooked during the study. Cultmatrix and its subcontractors will not be held liable for such oversights or for costs incurred as a result thereof.

1.2 Development site/area location and boundaries

The proposed development is located on various farms and farm portions east of Fochville and is located in Gauteng. The dominant landscape feature is the Gatsrand and the TSF site is located south of it.

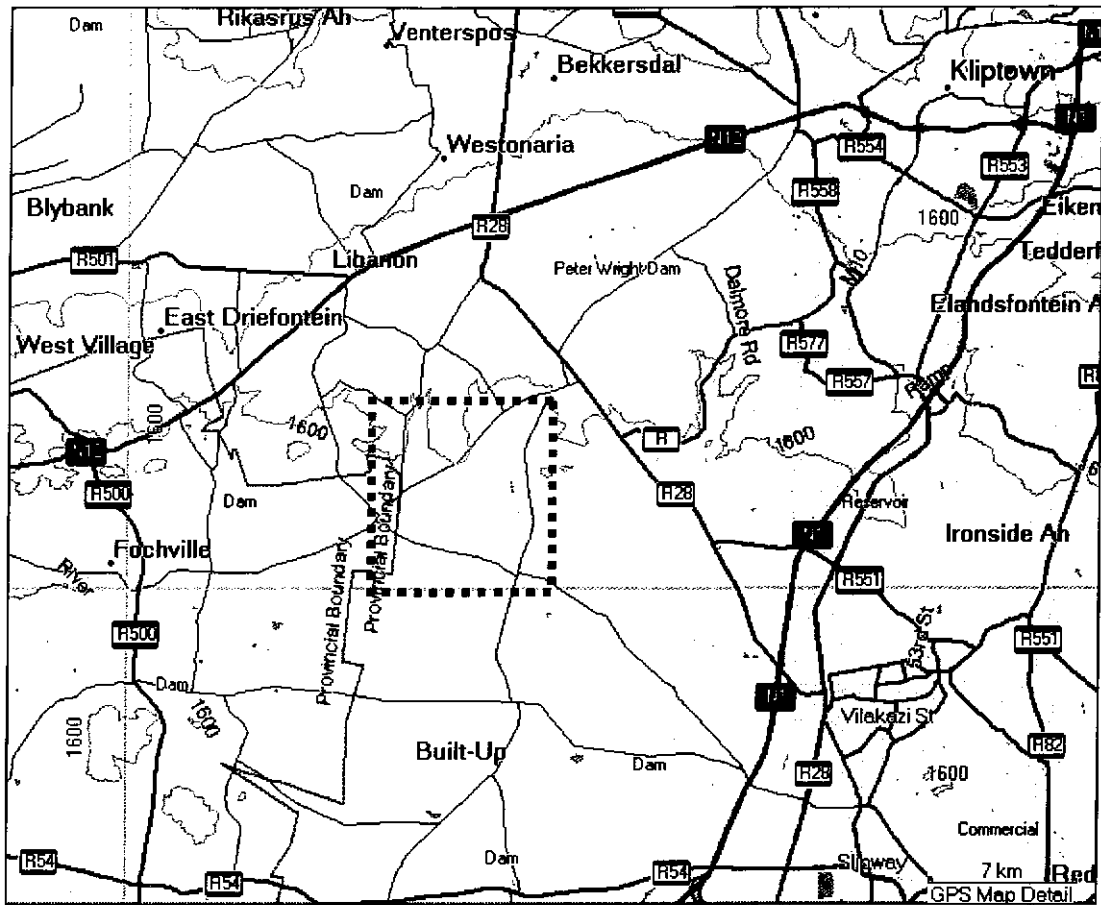


Figure 1: General location of study area, indicated with a dotted rectangle

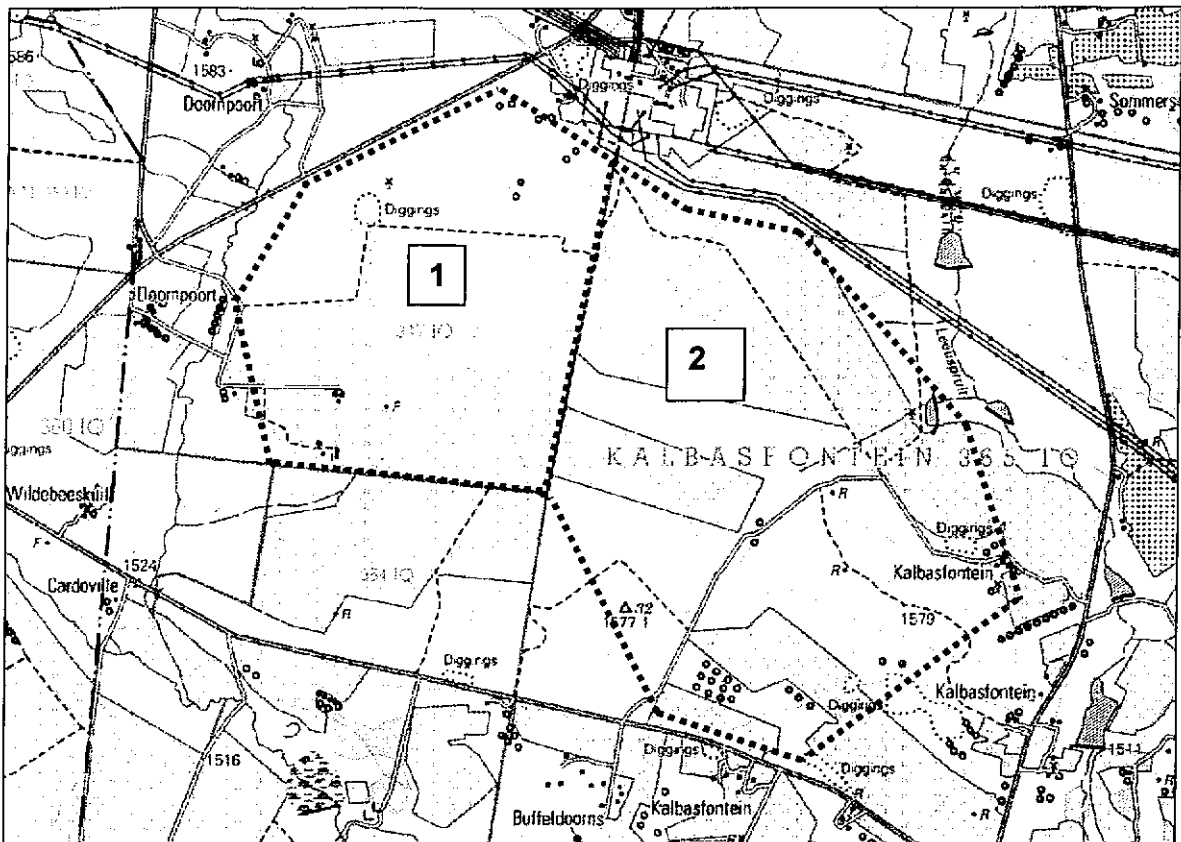


Figure 2: Portion of 2627 BC (2001) indicating the footprint of the Doornpoort TSF (1) and the new TSF (2)

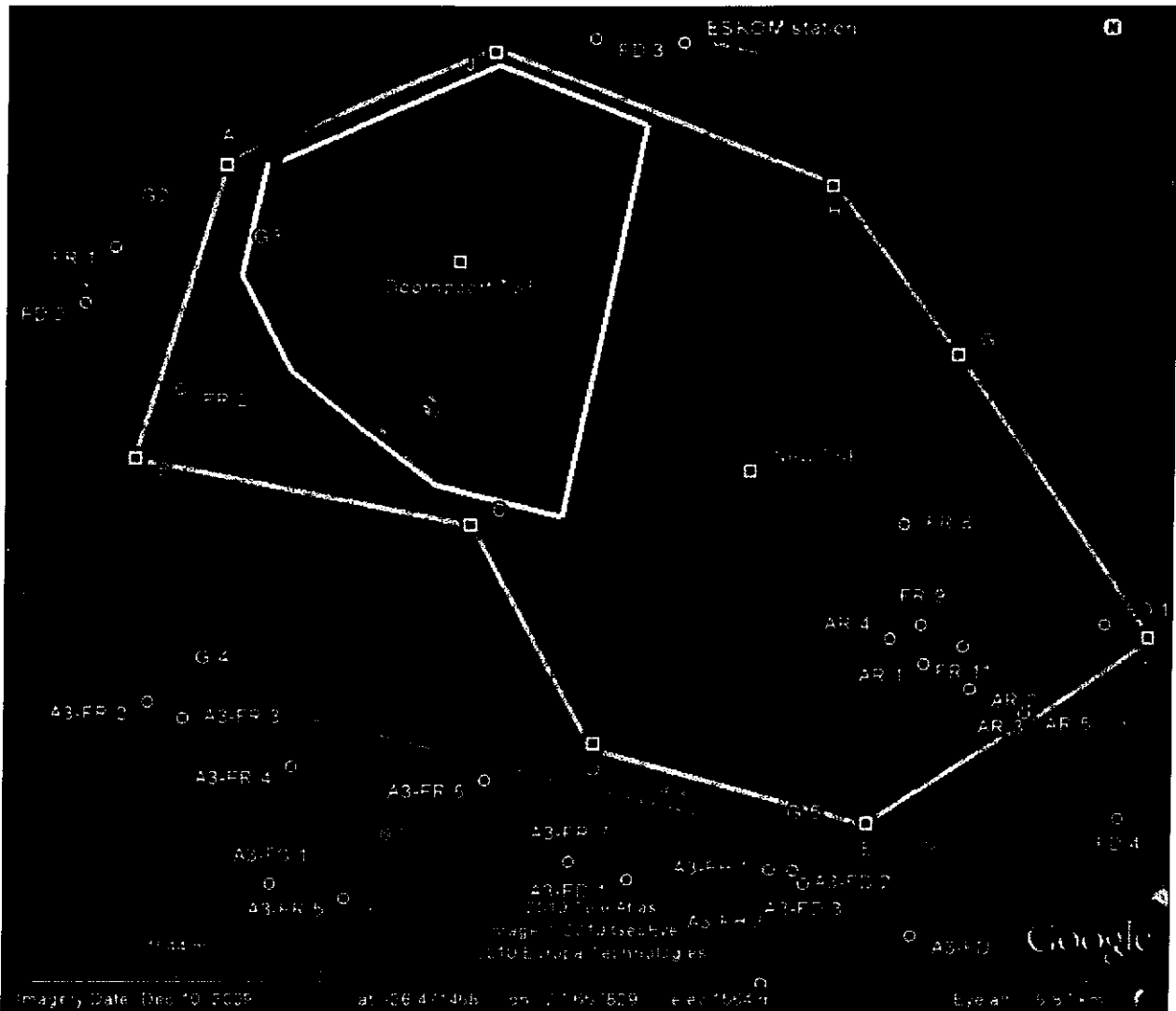


Figure 3: Google Earth image (2009) indicating the footprint of the Doornpoort and the new TSF and how this affects identified heritage features

1.3 Purpose of the report

Report category	Aim	SAHRA office submitted to	Requested SAHRA response
Screening	The aim of the screening investigation is to provide an informed heritage-related opinion about the proposed development by an appropriate heritage specialist. The objectives of this investigation are to screen potential heritage issues through a site inspection, to develop a broad understanding of heritage policy-related context, to review any existing data on the history and heritage significance of the site, to check if the site has any formal heritage status, to discuss the proposed development with heritage contacts and to scan the development proposals. The result of this	-	-

Report category	Aim	SAHRA office submitted to	Requested SAHRA response
	investigation is a brief statement indicating potential heritage impacts/issues and the need for further investigation.		
Scoping (basic assessment)	The aim of the scoping investigation is to analyse heritage issues and how to manage them within the context of the proposed development. The objectives are to assess heritage significance (involving site inspections and basic desktop and archival research); to identify the need for further detailed inputs by heritage specialists, to consult with local heritage groups and experts, to review the general compatibility of the development proposals with heritage policy and to assess the acceptability of the proposed development from a heritage perspective. The result of this investigation is a heritage scoping report indicating the presence/absence of heritage resources and how to manage them in the context of the proposed development.	-	-
		-	-
		-	-
Full HIA (draft)	The aim of the full HIA investigation is to analyse and recommend heritage management mitigation measures and monitoring programmes. The objectives are to analyse heritage issues, to research the chronology of the site and its role in the broader context, to undertake a comprehensive assessment of heritage significance, to analyse the nature and scale of the proposed development, to consult with local heritage groups and experts as part of the broader EIA stakeholder engagement process, to establish the compatibility of the proposed development with heritage and other statutory frameworks and to assess alternatives in order to promote heritage conservation issues.	PHRAG	Approval
		SAHRA Burial Grounds and Graves Unit	Comments
		SAHRA Archaeology, Palaeontology and Meteorites Unit	Comments

1.4 History of the application

This report is the third and final HIA report and has been preceded by a Heritage Scoping (Basic Assessment) report (Cultmatrix, August 2009), a first draft HIA report (Cultmatrix, November 2009) and a second draft HIA report (Cultmatrix, June 2010).

Dr Julius CC Pistorius, a qualified heritage resource consultant surveyed the proposed Doornpoort TSF site (in November 2005) and pipeline routes (February 2006) for sites of archaeological, cultural and historic interest. During the survey of the tailings dam

complex area, four sites were identified. No heritage resource sites were found along the proposed pipeline routes.³

The Doornpoort TSF forms part of the total TSF development and is already under construction.

1.5 Legal context of the report

ACT	COMPONENT	IMPLICATION	RELEVANCE	COMPLIANCE
NHRA	S 34	Impacts on buildings and structures older than 60 years	Ruins of homesteads and other structures	Document before demolition (PHRAG permit)
	S 35	Impacts on archaeological and palaeontological heritage resources	Possible hidden (buried) features	Monitor during construction work
	S 35	Impacts on Iron Age structures	At least 5 inside development area	Map and sample before destruction (SAHRA permits)
	S 36	Impacts on graves	Present (identified)	Avoid and protect otherwise relocate (SAHRA permits)
	S 37	Impacts on public monuments	None present	-
	S 38	Developments requiring an HIA	Development is listed activity	Full HIA
NEMA	EIA Regulations	Activities requiring an EIA	Development is subject to an EIA	HIA is part of EIA
Other	-	-	-	-

1.6 Planning context of the report

The proposed development forms part of Gold Fields' planning for sustaining its mining operations on the far West Rand.

³ METAGO, n.d., *EIA report for Doornpoort TSF*.

1.7 Development criteria in terms of Section 38 of the NHRA

1.7	Development criteria in terms of Section 38(1)	Yes/No details
1.7.1	Construction of road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m in length	Yes
1.7.2	Construction of bridge or similar structure exceeding 50m in length	No
1.7.3	Development exceeding 5000 sq m	Yes
1.7.4	Development involving three or more existing erven or subdivisions	Yes
1.7.5	Development involving three or more erven or divisions that have been consolidated within past five years	Yes
1.7.6	Rezoning of site exceeding 10 000 sq m	Possible
1.7.7	Any other development category, public open space, squares, parks, recreation grounds	No

1.8 Property details

1.8	Property details	
1.8.1	Name and location of properties	Various farm portions east of Fochville
1.8.2	Erf or farm numbers	Kalbasfontein 365 IQ Doornpoort 347 IQ
1.8.3	Magisterial districts	Westonaria
1.8.4	Closest town	Fochville
1.8.5	Local authority	Westonaria
1.8.5	Current use	Agriculture, vacant, mining, transport
1.8.5	Current zoning	Agricultural and mining
1.8.5	Predominant land use of surrounding properties	Vacant, roads, residential, farming, commercial, mining
1.8.9	Total extent of properties	Not available

1.9 Property ownership

1.9	Property owners	
1.9.1	Farms	See 1.8.2
1.9.2	Name and contract address	Various
1.9.3	Telephone number	
1.9.4	Fax number	
1.9.5	E-mail	

1.10 Developer

1.10	Developer	
1.10.1	Name and contact address	Gold Fields – South Africa, GFI Mining South Africa (Pty) Ltd Driefontein Division
1.10.2	Telephone number	018 7819730 / 018 7819744
1.10.3	Fax	086 6383515
1.10.4	E-mail	Nico.Gewers@goldfields.co.za

1.11 Environmental practitioner

1.11	Environmental Specialist	
1.11.1	Name and contact address	Charlaine Baartjes, Ecopartners
1.11.2	Telephone number	(011) 431 2251
1.11.3	Fax	086 539 6127
1.11.4	E-mail	charlaine@ecopartners.co.za

1.12 Heritage impact assessment practitioners

1.12	Specialist (1)	
1.12.1	Name and contact address	Dr RC de Jong (Principal Member: Cultmatrix cc), PO Box 12013, Queenswood 0121, Pretoria
1.12.2	Qualifications and field of expertise	PhD (Cultural History) UP (1990), Post-Graduate Museology Diploma UP (1979), generalist heritage management specialist with

		experience in museums and heritage since 1983
1.12.3	Relevant experience in study area	HIA for development on farm Kraalkop at Fochville, HIA for sewer infrastructure on farm Middelvlei south of Westonaria
1.12.4	Telephone number	(082) 577-4741
1.12.5	Fax number	(086) 612-7383
1.12.6	E-mail	cultmat@iafrica.com

1.12	Specialist (2)	
1.12.1	Name and contact address	A J Pelser, Archaetnos cc
1.12.2	Qualifications and field of expertise	BA (UNISA), BA (Hons) (Archaeology), MA (Archaeology) (Wits), general heritage management specialist with experience in museums and heritage, ASAPA accredited archaeologist
1.12.3	Relevant experience in study area	AiAs for developments at Fochville
1.12.4	Telephone number	(083) 459-3091
1.12.5	Fax number	(086) 520-0673
1.12.6	E-mail	Antonp21@yahoo.com

1.12	Specialist (3)	
1.12.1	Name and contact address	Prof B Rubidge, Department of Earth Sciences, University of the Witwatersrand
1.12.2	Qualifications and field of expertise	PhD
1.12.3	Relevant experience in study area	Palaeontological studies, Director of the Bernard Price Institute for Palaeontological Research
1.12.4	Telephone number	(011) 717-6682
1.12.5	Fax number	(011) 717-6694
1.12.6	E-mail	Bruce.rubidge@wits.ac.za

2. LITERATURE

A fair amount of literature exists about the heritage of the area in which the development is located (Gatsrand/Fochville), mainly in terms of archaeology. The name *Gatsrand* refers to numerous cave systems that provide refuge to Stone and Iron Age communities and even to Boer War refugees.

3. TERMS OF REFERENCE

This report contains a draft Heritage Impact Assessment in accordance with the provisions of Section 38(1) of the *National Heritage Resources Act (25/1999)*.

The proposed development is located on various farm portions east of Fochville and south of East Driefontein, Glenharvie and Westonaria in the North-West and Gauteng provinces and generally consists of the following components required by the gold-mining industry:

- A proposed site for a consolidated TSF

4. METHODOLOGY

This report has been compiled using the following methods generally used in heritage scoping investigations:

- Desktop studies: Published and unpublished sources, historic maps and aerial images, current maps and aerial images, cadastral diagrams, archival sources
- Fieldwork: Four days on site to identify and assess new features and to verify and assess features identified through desktop studies. This was done through foot and vehicle investigations of the study area in June and November 2009. During the site inspection the respective properties were examined in some detail. Certain parts of the landscape were found generally to exhibit low archaeological visibility and were checked at random intervals, while features in the respective landscapes that were more likely to have been foci for past human activity (e.g drainage lines, clumps of trees) were assessed more systematically. The archaeological visibility varied from good (degraded sections) to poor (heavily vegetated sections).
- Draft and final reports compiling results from desktop studies and fieldwork, including database of identified heritage features in Excel format

5. ASSUMPTIONS AND LIMITATIONS

The following aspects have a direct bearing on the investigation and the resulting report:

- *Cultural (heritage) resources* are all non-physical and physical human-made occurrences, as well as natural occurrences that are associated with human activity. These include all sites, structures and artefacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development.
- The *cultural significance* of sites and artefacts is determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.
- The *value* is related to concepts such as *worth, merit, attraction* or *appeal*, concepts that are associated with the (current) usefulness and condition of a place or an object. Hence, in the development area, there are instances where elements of the place have a high level of significance but a lower level of value.
- It must be kept in mind that significance and value are not mutually exclusive, and that the evaluation of any feature is based on a combination or balance between the two.
- Isolated occurrences: findings of artefacts or other remains located apart from archaeological sites. Although these are noted and samples are collected, it is not used in impact assessment and therefore do not feature in the report.
- Traditional cultural use: resources which are culturally important to people.
- All archaeological remains, artificial features and structures older than 100 years and historic structures older than 60 years are protected by the relevant legislation, in this case the National Heritage Resources Act (NHRA) (Act No. 25 of 1999). No

archaeological artefact, assemblage or settlement (site) and no historical building or structure older than 60 years may be altered, moved or destroyed without the necessary authorisation from the South African Heritage Resources Agency (SAHRA) or a provincial heritage resources authority. Full cognisance is taken of this Act in making recommendations in this report.

- The guidelines as provided by the NHRA (Act No. 25 of 1999) in Section 3, with special reference to subsection 3, and the Australian ICOMOS Charter (also known as the Burra Charter) are used when determining the cultural significance or other special value of archaeological or historical sites.
- It should be kept in mind that archaeological deposits usually occur below ground level. Should artefacts or skeletal material be revealed at the site during construction, such activities should be halted, and it would be required that the heritage consultants would be required to be notified in order for an investigation and evaluation of the find(s) to take place (*cf.* NHRA (Act No. 25 of 1999), Section 36 (6)).

The investigation has been influenced by the following factors:

- Unpredictability of buried archaeological remains (absence of evidence does not mean evidence of absence)
- Tall grass and dense vegetation due to abundant rainfall that may have obscured heritage features
- Lack of human habitation at many farmsteads implying that there was nobody available to provide information about graves and other features that are difficult to find
- Limited access to some areas
- Heritage reports prepared and submitted for other developments around the site could not be accessed and studied at the SAHRA office in Cape Town, because the system that is supposed to allow for this is not yet in place⁴

⁴ See the list of references

6. FINDINGS

6.1 Description of distinguishing site features

6.1.1 Environmental features

COMPONENT	DESCRIPTION
Acocks veld type	Bankenveld
Geological and mining	Diggings
Geology	Arenite and shale (no dolomite)
Hydrology	Remains of streams
Land cover	Grassland
Land use	Vacant, grass and wood harvesting
Vegetation	Rocky Highveld grassland
Slope	0-9%
Terrain morphology	Hills and lowlands
Wetlands	None

6.1.2 Heritage features

S 3(2) NHRA heritage resource	DESCRIPTION
Buildings, structures, places and equipment of cultural significance	Ruins of homesteads, farm dam, planted vegetation, furrows, farmsteads, homesteads, diggings
Areas to which oral traditions are attached or which are associated with intangible heritage	Entire development area
Historical settlements and townscapes	None
Landscapes and natural features of cultural significance	Relic landscape: Former farming activities; parts of the landscape are still used for farming purposes
Geological sites of scientific or cultural importance	None
Archaeological and palaeontological sites	Late Iron Age structures
Graves and burial grounds	Cemeteries

S 3(2) NHRA heritage resource	DESCRIPTION
Areas of significance related to labour history	None
Movable objects	None

6.1.3 Surrounding environment

AREA	DESCRIPTION
West	Fochville town and road, farms
North	Glenharvie, mines, farms, Westonaria
East	Farms and road
South	Farms and road

6.2 Development description

6.2	Development description	
6.2.1	Nature of proposed development	TSF
6.2.2	Possible impacts on heritage value of site and contents	Low to high
6.2.3	Structures older than 60 years affected by proposed development	Yes (ruins and buildings)
6.2.4	Rezoning or change of land use	Possible
6.2.5	Construction work	Yes
6.2.6	Total floor area of proposed development	-
6.2.7	Extent of land coverage of development	Not available
6.2.8	Earth moving and excavation	Yes
6.2.9	Number of storeys	-

6.2	Development description	
6.2.10	Maximum height above ground level	-
6.2.11	Monetary value development	Not available
6.2.12	Time frames	Urgent

6.3 Heritage impact context

6.3.1 Cultural landscape evidence

HERITAGE LANDSCAPE CONTEXT	ELEMENTS	EVIDENCE
A. PALAEOLOGICAL LANDSCAPE CONTEXT	Fossil remains. Such resources are typically found in specific geographical areas, e.g. the Karoo and are embedded in ancient rock and limestone/calcrete formations.	None
C. HISTORICAL BUILT URBAN LANDSCAPE CONTEXT	<ul style="list-style-type: none"> • Historical townscapes/streetscapes • Historical structures; i.e. older than 60 years • Formal public spaces • Formally declared urban conservation areas • Places associated with social identity/displacement 	None

<p>E. HISTORICAL RURAL TOWN CONTEXT</p>	<ul style="list-style-type: none"> • Historical mission settlements • Historical townscapes 	<p>None</p>
<p>F. PRISTINE/NATURAL LANDSCAPE CONTEXT</p>	<ul style="list-style-type: none"> • Historical patterns of access to a natural amenity • Formally proclaimed nature reserves • Evidence of pre-colonial occupation • Scenic resources, e.g. view corridors, viewing sites, visual edges, visual linkages • Historical structures/settlements older than 60 years • Pre-colonial or historical burial sites • Geological sites of cultural significance. 	<p>None</p>
<p>G. RELIC LANDSCAPE CONTEXT</p>	<ul style="list-style-type: none"> • Past farming settlements • Past industrial sites • Places of isolation related to attitudes to medical treatment • Battle sites • Sites of displacement, 	<p>None</p>
<p>H. BURIAL GROUND & GRAVE SITE CONTEXT</p>	<ul style="list-style-type: none"> • Pre-colonial burials (marked or unmarked, known or unknown) • Historical graves (marked or unmarked, known or unknown) • Human remains (older than 100 years) • Associated burial goods (older than 100 years) • Burial architecture (older than 60 years) 	<p>None</p>
<p>I. ASSOCIATED LANDSCAPE CONTEXT</p>	<ul style="list-style-type: none"> • Sites associated with living heritage e.g. initiation sites, harvesting of natural resources for traditional medicinal purposes • Sites associated with displacement & contestation • Sites of political conflict/struggle • Sites associated with an historic event/person • Sites associated with public memory 	<p>None</p>
<p>J. HISTORICAL FARM WERF CONTEXT</p>	<ul style="list-style-type: none"> • Setting of werf and its context • Composition of structures • Historical/architectural value of individual structures • Tree alignments • Views to and from • Axial relationships • System of enclosure, e.g. werf walls • Systems of water reticulation and irrigation, e.g. 	<p>None</p>

	furrows <ul style="list-style-type: none"> • Sites associated with slavery and farm labour • Colonial period archaeology 	
K. HISTORICAL INSTITUTIONAL LANDSCAPE CONTEXT	<ul style="list-style-type: none"> • Historical prisons • Hospital sites • Historical school/reformatory sites • Military bases 	None
L. SCENIC/VISUAL	<ul style="list-style-type: none"> • Scenic routes 	None
K. AMENITY LANDSCAPE CONTEXT	<ul style="list-style-type: none"> • View sheds • View points • Views to and from • Gateway conditions • Distinctive representative landscape conditions • Scenic corridors 	

6.3.2 Heritage context classification

CATEGORY	DESCRIPTION	EVIDENCE
A	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 1, 2 or 3A heritage resources	No
B	Of moderate to high intrinsic, associational and contextual value within a local context, i.e. potential Grade 3B heritage resources	No
D	Of little or no intrinsic, associational or contextual heritage value due to disturbed, degraded conditions or extent of irreversible damage	No

6.3.3 Development context type

CATEGORY	DESCRIPTION	EVIDENCE
A: Minimal intensity development	<ul style="list-style-type: none"> • No rezoning involved; within existing use rights • No subdivision involved • Upgrading of existing infrastructure within existing envelopes • Minor internal changes to existing structures • New building footprints limited to less than 1000m² 	Not available
B: Low-intensity development	<ul style="list-style-type: none"> • Spot rezoning with no change to overall zoning of a site • Linear development less than 100m • Building footprints between 1000m²-2000m² 	Not available

CATEGORY	DESCRIPTION	EVIDENCE
	<ul style="list-style-type: none"> Minor changes to external envelop of existing structures (less than 25%) Minor changes in relation to bulk and height of immediately adjacent structures (less than 25%). 	
C: Moderate intensity development	<ul style="list-style-type: none"> Rezoning of a site between 5000m2-10 000m2 Linear development between 100m and 300m Building footprints between 2000m2 and 5000m2 Substantial changes to external envelop of existing structures (more than 50%) Substantial increase in bulk and height in relation to immediately adjacent buildings (more than 50%) 	Not available



6.3.4 Expected impact significance

HERITAGE CONTEXT	TYPE OF DEVELOPMENT			
	CATEGORY A	CATEGORY B	CATEGORY C	CATEGORY D
A: High heritage value	Moderate heritage impact expected	High heritage impact expected	Very high heritage impact expected	Very high heritage impact expected
B: Medium to high heritage value	Minimal heritage impact expected	Moderate heritage impact expected	High heritage impact expected	Very high heritage impact expected
C: Medium to low heritage value	Little or no heritage impact expected	Minimal heritage impact expected	Moderate heritage impact expected	High heritage impact expected
D: Low heritage value	Little or no heritage impact expected	Little or no heritage impact expected	Minimal heritage value expected	Moderate heritage impact expected

6.4 Conceptual heritage assessment

<u>Context</u>		
	<i>(check box of all relevant categories)</i>	<i>Brief description/explanation</i>
	Urban environmental context	<ul style="list-style-type: none"> • Roads • Vacant land • Former grazing land • Former pasture land • Ruins of homesteads • Farm dams
x	Rural environmental context	
	Natural environmental context	
Formal protection (NHRA)		
	Is the property part of a protected area (S. 28)?	No
	Is the property part of a heritage area (S. 31)?	No
Other		
	Is the property near to or visible from any protected heritage sites?	No
	Is the property part of a conservation area or special area in terms of the Zoning Scheme?	No
	Does the site form part of a historical settlement or townscape?	No
x	Does the site form part of a rural cultural landscape?	Yes: Farm land
	Does the site form part of a natural landscape of cultural significance?	No
	Is the site within or adjacent to a scenic route?	No

	Is the property within or adjacent to any other area which has special environmental or heritage protection?	No
x	Does the general context or any adjoining properties have cultural significance?	Yes: Late Iron Age structures and historic farm buildings, as well as Fochville town

<u>Property features and characteristics</u>		
	<i>(check box if YES)</i>	<i>Brief description</i>
x	Have there been any previous development impacts on the property	Yes: Roads, tracks, old pastures, grazing land, buildings, water reservoirs, exotic vegetation, Iron Age structures, mines
x	Are there any significant landscape features on the property?	Rocky ridges
	Are there any sites or features of geological significance on the property?	No
x	Does the property have any rocky outcrops on it?	Yes
	Does the property have any fresh water sources (springs, streams, rivers) on or alongside it?	Yes
	Does the property have any sea frontage?	No
	Does the property form part of a coastal dune system?	No
	Are there any marine shell heaps or scatters on the property?	No
	Is the property or part thereof on land reclaimed from the sea?	No

<u>Heritage resources on the property</u>		
	<i>(check box if present on the property)</i>	<i>Name / List / Brief description</i>
Formal protections (NHRA)		
	National heritage site (S. 27)	No
	Provincial heritage site (S. 27)	No
	Provisional protection (s.29)	No
	Place listed in heritage register (S. 30)	No
General protections (NHRA)		
x	structures older than 60 years (S. 34)	Yes: Homestead ruins, homesteads, farmsteads
x	archaeological site or material (S. 35)	Yes: Late Iron Age structures
	palaeontological site or material (S. 35)	No
x	graves or burial grounds (S. 36)	Yes
	public monuments or memorials (S. 37)	No
Other		
x	Any heritage resource identified in a heritage survey (state author and date of survey and survey grading/s)	Yes: Pistorius report (2005)
	Any other heritage resources (describe)	No

<u>Property history and associations</u>		
	<i>(check box if YES)</i>	<i>Brief description/explanation</i>
x	Provide a brief history of the property (e.g. when granted, previous owners and uses).	See Appendix 1

<u>Property history and associations</u>		
x	Is the property associated with any important persons or groups?	Yes: Tswana settlement during Late Iron Age
	Is the property associated with any important events, activities or public memory?	No
	Does the property have any direct association with the history of slavery?	No
	Is the property associated with or used for living heritage?	No
	Are there any oral traditions attached to the property?	Possible (former residents)

7. SITE ALTERNATIVES

The heritage study initially focused on four alternative sites for the proposed tailings dams. After considering the significance and number of affected heritage resources as well as other environmental factors, the current Kalbasfontein site was selected.

The nature and significance of what has been found in terms of heritage is not of such importance that the proposed development area should be changed or that an alternative development area should still be considered.

8. HERITAGE IMPACTS

Based on the premise that the proposed development will impact on heritage resources, the below recommended measures to manage any perceived negative impacts are tabulated. Impacts on individual heritage resources have been assessed.

TABLE 2: Identification of heritage features, impacts and management measures

S 3(2) NHRA heritage resource	(a) Identification		(b) Significance	(c) Impact		(d) Recommended impact management
	Site	GPS		Study area	Impact type, certainty and significance	
Buildings, structures, places and equipment of cultural significance	FR 1: Historic farm building	-26.459747° 27.632567°	Medium local	Outside and west of Doornpoort TSF	Neutral	Avoidance and preventative mitigation: Document (plans, elevations, photos) and monitor for damage during construction and operation of Doornpoort TSF
	FR 2: Doornpoort homestead ruin	-26.466258° 27.636082°	Low local	Outside and west of Doornpoort TSF	Neutral	Avoidance if possible. If demolition is necessary: NHRA Section 34 demolition permit application
	FR 8: Old reservoirs, kraal, walls	-26.471632° 27.674598°	Low local	New TSF	Definitely low negative	No action – not much left
	FR 9: Structure ruin	-26.476349° 27.675603°	Low local	New TSF	Definitely low negative	No action – not much left
	FR 10: Structure ruin	-26.477292° 27.677846°	Low local	New TSF	Definitely low negative	No action – not much left
	FD 2: Doornpoort farmstead	-26.462316° 27.630845°	Low local	Outside Doornpoort TSF	Neutral	No action
	FD 1: Kalbasfontein farmstead	-26.476081° 27.685400°	Low local	New TSF	Definitely low negative	
Areas to which oral traditions are attached or which are associated with intangible heritage	None	-	-	-	-	No action

S 3(2) NHRA heritage resource	(a) Identification		(b) Significance	(c) Impact		(d) Recommended impact management
	Site	GPS		Study area	Impact type, certainty and significance	
Historical settlements and landscapes	None	-	-	-	-	No action
Landscapes and natural features of cultural significance	None	-	-	-	-	No action
Geological sites of scientific or cultural importance	None	-	-	-	-	None
Archaeological and palaeontological sites	Chance finds	Unknown	Low local?	All	Unknown	Mitigation: Report and evaluate any graves or archaeological features and artefacts when found
	AR 1: Late Iron Age structure	-26.478198° 27.675848°	Medium local	New TSF	Definitely low negative	Mitigation: Mapping and drawing the sites (together one composite site) in detail to determine settlement layout and extent. Once this has been completed archaeological excavations have to be conducted in certain sections of the settlement complex to recover as much cultural material as possible to help with the interpretation of the Late Iron Age in the area. Once these investigations have been completed the sites can be destroyed. For both the archaeological investigations and the destruction of the site, permits from the South African Heritage Resources Agency (SAHRA) will have to be obtained.
	AR 2: Late Iron Age structure	-26.479309° 27.678332°	Medium local	New TSF		
	AR 3: Late Iron Age structure	-26.479867° 27.679946°	Medium local	New TSF		
	AR 4: Late Iron Age structure	-26.477052° 27.673989°	Medium local	New TSF		
	AR 5: Late Iron Age structure	-26.480359° 27.681242°	Medium local	New TSF		

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S 3(2) NHRA heritage resource	(a) Identification		(b) Significance	(c) Impact		(d) Recommended impact management
	Site	GPS		Study area	Impact type, certainty and significance	
Graves and burial sites	G 3: Doornpoort graves	-26.461219° 27.640440°	High local	Doornpoort TSF	Definitely high negative	Mitigation: Relocate (in process)
	G 2: Doornpoort graves	-26.459442° 27.634313°	High local	Doornpoort TSF	Neutral: Outside Doornpoort TSF	Mitigation and avoidance: Document, protect, monitor
Features associated with labour history	None	-	-	-	-	No action
Movable objects	None	-	-	-	-	No action

9. IMPACT MANAGEMENT

9.1 Mitigation before construction

Section 8 (above) lists recommended measures to mitigate any negative impacts on identified heritage resources before construction starts. This normally includes:

- Photo recording of farmsteads and homesteads
- Detailed documentation (plans, elevations, photos) of buildings and structures older than 60 years that are significant (indicated in Table 2)
- Surveying and mapping of archaeological structures that will be destroyed combined with sampling (test excavations) at these sites to uncover any hidden/buried artefacts that may contribute to our knowledge (indicated in Table 2)
- Protection of archaeological and other heritage resources (including buildings and graves) that will have no direct impacts but that could be affected indirectly
- Relocation of graves that will be affected

9.2 Mitigation during construction

The monitoring of any unknown/hidden/buried heritage resources that may be uncovered is recommended as a standard approach.

Preserved heritage resources in the vicinity of the development should also be monitored for any signs of increased deterioration and damage as a result of construction and site preparation work.

10. FINDINGS AND RECOMMENDATIONS

Based on the above findings, Cultmatrix states that there are no compelling reasons or fatal flaws that may go against the proposed TSF development from a heritage perspective. The nature and significance of what has been found in terms of heritage is not of such importance that the proposed development area should be changed or that an alternative TSF site should be considered.

The following general recommendations to effect the authorisation of the proposed development by SAHRA and PHRAG apply:

1. Site preparation activities must be monitored for the occurrence of any other archaeological material (historic waste disposal sites etc) and similar hidden/buried chance finds and an archaeologist should be asked to inspect the area when this has reached an advanced stage in order to verify the presence or absence of any such material.
2. Heritage features older than 60 years (some FR sites) that need to be demolished must be fully documented before demolition.
3. The archaeological features that may be affected (AR sites) should be mapped and sampled by an accredited archaeologist before destruction.
4. Graves (G sites) in burial grounds that cannot be preserved should be relocated. Graves younger than 60 years may be relocated by a registered undertaker; those older than 60 years by an accredited archaeologist.
5. A Heritage Conservation Management Plan must be compiled to ensure the continued preservation of those heritage features that will remain (during and after construction), in particular Grave site 2 and FR 1.



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Maps

2627 BC (1943 and 2001)

Cadastral diagrams of the farms (Chief Surveyor-General)

CULTMATRIX CC

Maps provided by client

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APPENDIX 1: SOCIO-CULTURAL HISTORY OF DEVELOPMENT AREA⁵

The first communities were hunters and gatherers who were able to make tools and weapons from stone, bone and wood. About 2,4 million years BP, early hominids known as *Australopithecus africanus* lived at Taung (a national heritage site), one of South Africa's most important palaeontological sites. Two more palaeontological sites occur in the Brits area (Gondolin and Haasgat, both national heritage sites). The province borders on the Cradle of Humankind World Heritage Site, where other early hominids existed.

The australopithecines were gradually displaced by another early hominid, *Homo habilis*, and eventually disappeared. *Homo habilis* had evolved into the more advanced *Homo erectus* (also known as *Homo ergaster*) by 1,8 million years BP, which was responsible for the development of large stone cutters and cleavers that collectively constitute the so-called Early Stone Age (ESA). The province is so far not known for major ESA sites.

By 250 000 years BP, the large cleavers and hand axes of the ESA disappeared and were replaced by a larger variety of smaller tools and weapons of diverse shapes and sizes, made by different techniques. This change in technology marks the beginning of the Middle Stone Age (MSA). During the MSA, early humans still settled in the open along or near water sources but also took shelter in caves. The MSA marks the transition from a more archaic *Homo* (*Homo ergaster*) to anatomically modern humans, *Homo sapiens*. With this physical development the first signs of art, decoration and symbolism began to appear.

The Later Stone Age (LSA), which occurred from about 20 000 years ago, is signalled by a series of technological innovations and social transformations within these early hunter-gatherer societies. The hunting apparatus now included two important innovations, the bow and the link-shaft arrow. Link-shaft arrows were constructed with a poisoned bone tip, a link and shaft that fell away on impact, leaving the poison tip imbedded in the animal. Other innovations included bored stones, used as digging-stick

⁵ Based on CULTMATRIX (2008) Heritage chapter in the *North-West State of the Environment Report*. Prepared for Tswelopele Environmental

weights to aid in uprooting tubers and roots; small stone tools, often less than 25 mm in length, used for cutting meat and scraping hides; polished bone tools such as needles; twine made from plant fibre or leather; tortoiseshell bowls; fishing equipment, including hooks and sinkers; bone tools with decoration; high frequencies of ostrich eggshell beads and an increase in ornaments and artwork. The Magaliesberg contains major LSA sites (Jubilee Shelter, Kruger Cave, Silkaatsnek, Xanadu and others), whilst Matlwase near the former Wolmaransstad represent another important LSA site.

The LSA is also associated with the advent of rock art. In Southern Africa rock paintings are primarily found in hilly and mountainous areas where there are shelters, whilst rock engravings occur in the open on scattered rocks and outcrops. The province is not known for its rock paintings, but has instead one of the largest collections of rock engravings in South Africa, mainly in the south-western Highveld regions (Bosworth and Thaba Sione rock engravings declared a provincial heritage site). Most of these engravings are attributed to the Khoisan communities that evolved during the later periods of the LSA.

The expansion of early farmers, who, among other things, cultivated crops, raised livestock, made ceramic containers (pots), mined ore and smelted metals, occurred in this area between AD 400 and AD 1100 and brought the Early Iron Age (EIA) to South Africa. They settled in semi-permanent villages. These communities migrated from the Lowveld and coastal areas to the higher regions in the interior (such as the Bankenveld) during the latter part of the EIA. An important early settlement site with evidence of iron smelting and working is located near Broederstroom (provincial heritage site) in the Brits area. Sites were found within 100m of water, either on a riverbank or at the confluence of streams. The close proximity to streams meant that the sites were often located on alluvial fans. The nutrient rich alluvial soils would have been favoured for agriculture. The availability of floodplains and naturally wetter soils would have been important for the practice of dryland farming.

While there is some evidence that the EIA continued into the 15th century in the Lowveld, on the escarpment it had ended by AD1100. The Highveld, particularly around Lydenburg, Badfontein, Sekhukhuneland, Roosenekal, and Steelpoort, became active again from the 15th century onwards due to a gradually warmer and wetter climate. From here communities spread to other parts of the Highveld. This later phase, termed

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the Late Iron Age (LIA), was accompanied by extensive stonewalled settlements, such as Kaditshwene, Molokwane and the Olifantspoort Complex near Koster. Other LIA sites occur in the entire Magaliesberg and the hilly region north-west of Klerksdorp.

Originating in the Free State the Phokeng migrated northwards towards the Rustenburg area. Where they settled they built large stone-walled settlements and cattle outposts (categorised as *Klipriviersberg* walling). The outer wall sometimes includes scallops to mark back courtyards. There are small stock kraals and straight walls separate households in the residential zone. In some areas houses were built of stone in the shape of a beehive. In other parts they were thatched with mud walls and sliding doors. Klipriviersberg settlements stretch across the hilly areas in southern Gauteng west into the North-West Province. Examples are found in the study area.

By the 1700s, with growing trade wealth, economically driven centres of control began to emerge and the North-West landscape became an important thoroughfare for both local and foreign traders, although there were far less trade routes than in Limpopo and Mpumalanga. Long distance trade included copper and tin, but not iron; ivory, furs, rhino horns and salt (mined at the Tswaing Crater) were exchanged for livestock, cloth, glass beads and other European objects, like guns. Tin was mined at Rooiberg, just outside the present-day province, which became an important terminus for a trade route stretching to Musina. Copper was mined at Dwarsberg and iron in the Rustenburg-Brits area.

Sotho-Tswana and Nguni societies, the descendants of the LIA mixed farming communities, found the region already sparsely inhabited by the Late Stone Age (LSA) Khoisan groups, the so-called 'first people'. Most of them were eventually assimilated by LIA communities and only a few managed to survive, such as the Korana and Griqua.

From LIA communities tribal societies emerged conveniently grouped according to their languages. The province became home to Western Sotho communities speaking Setswana, such as the Tlhaping, Rolong, Phiring, Phokeng, Kwena, Kgatla, Hurutshe, Taung and Tsatsing tribal communities.

Factors such as population expansion, increasing pressure on natural resources, the emergence of power blocs, attempts to control trade and penetration by Griquas,

Korana and white communities from the south-west resulted in a period of instability in Southern Africa that began in the late 18th century and effectively ended with the settlement of white farmers in the interior. This period, known as the *difaqane* or *Mfecane*, also affected the North-West Province, although at a relatively late stage compared to the rest of Southern Africa. Here, the period of instability, beginning in the mid-1820s, was triggered by the incursion of Matabele groups commanded by Mzilikazi. Mzilikazi either displaced or assimilated many residing tribal communities and eventually moved his centre of operations from the Tshwane region to Gabeni and Mosega in the Zeerust area. Continual harassment by Griqua, Korana and Zulu invaders and in the end a campaign by a Voortrekker force compelled him to move to the present-day Zimbabwe in the late 1830s, taking a large portion of his community with him. Many of the tribal communities who were displaced by Mzilikazi regrouped and moved back to their former capitals, large settlements such as Kaditshwene, Lattakoe, Taung, Maquassi, Khunwana, Mashow, Lotlhakane, Tsineng, Motito and others.

The *difaqane* coincided with the penetration of the interior of South Africa by white traders, hunters, explorers and missionaries. The first was Hinrich Lichtenstein's journey of 1804-1805, which reached Lattakoe west of Vryburg. They were followed by Cowan, Donovan, Burchell and Campbell and resulted in the establishment of a London Mission Society station near Kuruman in 1817 by James Read. Samuel Broadbent and Thomas Hodgson of the Wesleyan Mission Society established a mission outpost at Leeuwfontein near Wolmaransstad in 1823 (today a heritage site). The journeys by Scoon, McLuckie, Bain, Smith and Hume in the 1820s resulted in increased contact between Mzilikazi and missionaries such as Moffat, Archbell, Lindley and Venable and in 1836 a mission station was established at Mosega.

In 1837 the establishment of a Boer settlement at Klerksdorp marked the beginning of a new phase in the history of the North-West Province. The first Voortrekkers to settle in the area were the followers of A H Potgieter. A fortification near Fochville (provincial heritage site) is a memory of this period. The town of Potchefstroom became the new centre of the community and white settlers slowly established themselves in the wider region. The Trekkers' political fractiousness did not, however, diminish. In 1856 the Lydenburg community seceded from the Zuid Afrikaansche Republiek (ZAR) – a development that was symptomatic of the fragility of the wider state. Political instability

and racial exclusivity however, co-existed with strong traditions of popular democracy. It was not until 1864 that political unity was achieved among the main Trekker communities in the Transvaal. By that time the Vaal River had been established as the border with the Orange Free State Boer republic.

Once the Trekkers had established what they saw as their right to the land they set about distributing it among themselves. The land was demarcated into large farms and title deeds were issued. The initial policy was that all burghers (citizens) were entitled to two farms of 3 000 morgen each (about 6 330 acres or 2 564 hectares) from the state. White newcomers to the Transvaal were quickly granted citizenship and the land that went with it. Farms which were not distributed remained government property and the ZAR, which battled to raise revenue, increasingly fell back on its principal asset – land. Within a short time some white settlers owned numerous farms while others had lost all right to the land.

Farm name	Granted to	Year of grant
Kalbasfontein 365 IQ	JA Geldenhuis	1859
Doornpoort 347 IQ	WH Viljoen	1872

The Gatsrand district did not escape the ravages of the Anglo-Boer War and most Boer farmsteads and homesteads were destroyed by British forces. For this reason there are hardly any structures that predate the war that have been left intact.

The town of Fochville was established during the First World War and included portions of the farms Kraalkop and Leeuwspruit. It was laid out by the two brothers Wulfsohn, who named it after Marshal Ferdinand Foch (Commander-in-Chief of the Allied forces in France), and was proclaimed on 15 November 1920.

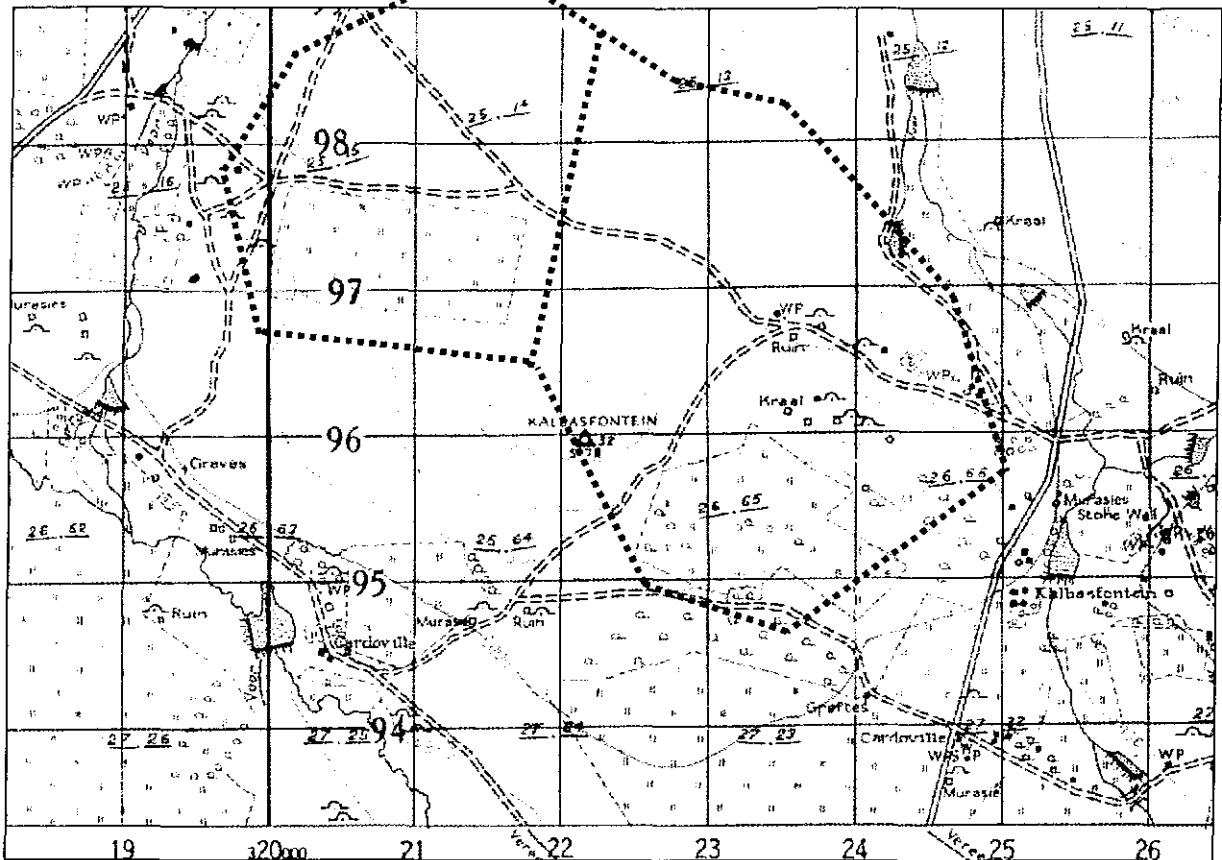


FIGURE 4: Section of 2627 BC (1943) showing the TSF footprint superimposed on the landscape as it existed at the time – note the “kraals” referring to Iron Age and farming ruins

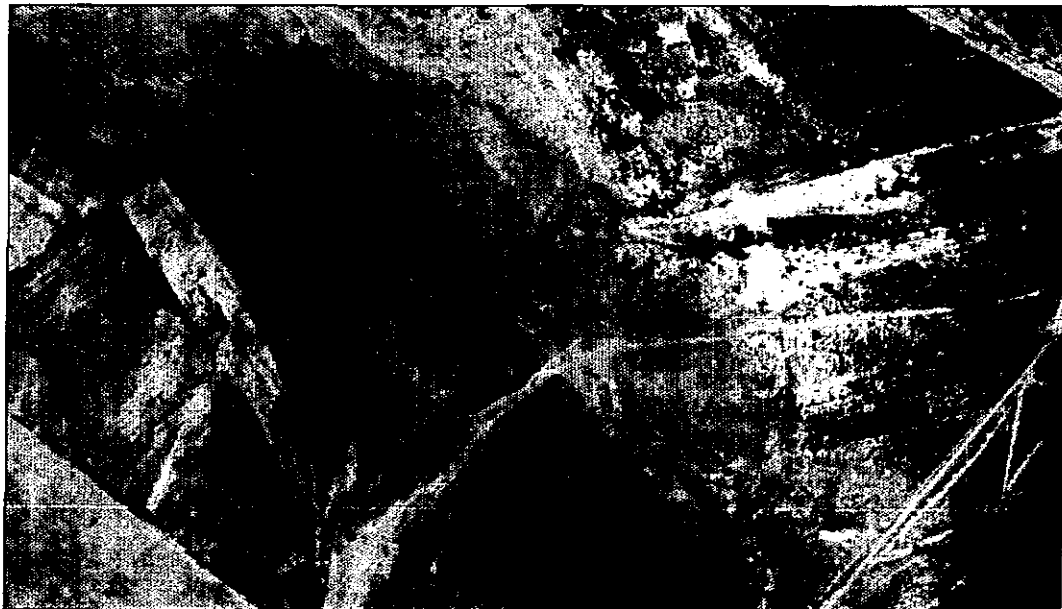



FIGURE 5: Section of aerial image Job 129 of 1938 strip 37 no 74766 showing the ridge with the Iron Age structures

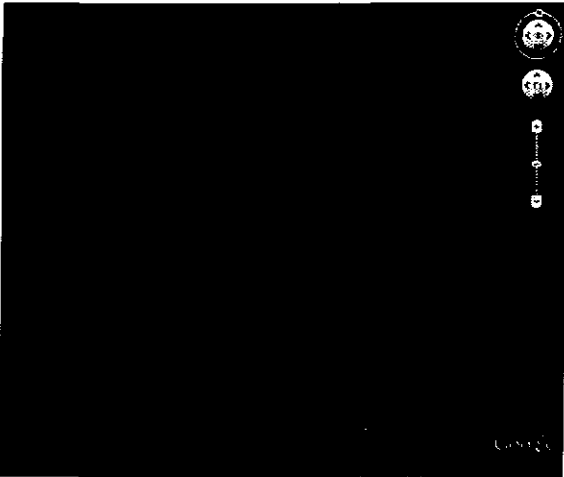
APPENDIX 2: SURVEY FORMS OF DIRECTLY AFFECTED FEATURES

SURVEY OF: Gold Fields TSF		1:50 000 MAP: 2527 BC			
SITE NAME: Kalbasfontein Late Iron Age ruins		SITE NO: AR 1-5			
FARM NAME AND NO: Kalbasfontein 365 IQ		TOWNSHIP: -			
FARM PORTION: -		STREET NAME: -			
ERF: -		STREET NO: -			
SITE FEATURES/COMPONENTS: Small circular stone structures					
SITE COMPONENT NAME: -			SITE COMPONENT NO: -		
LATITUDE: -26.478198°-26.479309°-26.479867°-26.477052°-26.480359°		LONGITUDE: 27.675848° 27.678332° 27.679946° 27.673989° 27.681242°		OTHER REFERENCE: Cultmatrix (2009) and Archaetnos (2010) reports for Kraalkop near Fochville, AIA report for TSF (2010)	
SITE ENVIRONMENT	HILL	DUNE	PLATEAU	PLAINS	COAST
	SLOPE x	VALLEY	URBAN	RIVER	WETLANDS
SITE/COMPONENT DESCRIPTION: Small circular stone structures, together one site					
ARCHITECT/BUILDER: -			BUILDING TYPE: -		
CONSTRUCTION DATE: 19 th century			BUILDING STYLE: -		
HISTORY: Probably associated with late Iron Age Tswana settlement					
EVIDENCE: Google Earth					
STATEMENT OF SIGNIFICANCE:		SITE/COMPONENT SIGNIFICANCE CATEGORY			SCORE
		1-3 = local			
		4-6 = regional			
		7-9 = national			
		Historical importance			3
		Information potential			3
		Rare/endangered			3
		Good example			3
		Aesthetic appeal			3
		Creative/Technical/Scientific			3
		Association with particular community/cultural group			3
		Association with person of historical importance			3
Condition			3		
Landmark			3		
SCORE: 1-30 = low/medium/high local			30		
31-60 = low/medium/high regional					
61-90 = low/medium/high national					
GENERAL EVALUATION	Outstanding importance	Significant x	Contributing	Insignificant	Intrusive
LEGAL STATUS: NHRA S 35					
PRESENT USE: Unused					
CONDITION:	GOOD	FAIR x	POOR	DERELICT	
THREATS: TSF new site		MANAGEMENT ACTIONS: Mitigation: Mapping and drawing the sites in detail to determine settlement layout and extent. Once this has been completed archaeological excavations have to be conducted in certain sections of the settlement complex to recover as much cultural material as possible to help with the interpretation of the Late Iron Age in the area. Once these investigations have been completed the sites can be destroyed. For both the archaeological investigations and the destruction of the site, permits from the South African Heritage Resources Agency (SAHRA) will have to be obtained.			
OWNER: -					
IMAGE:					


SURVEY OF: Gold Fields TSF		1:50 000 MAP: 2627 BC			
SITE NAME: Kalbasfontein farmstead		SITE NO: FD 1			
FARM NAME AND NO: Kalbasfontein 365 IQ		TOWNSHIP: -			
FARM PORTION: -		STREET NAME: -			
ERF: -		STREET NO: -			
SITE FEATURES/COMPONENTS: Modern farmstead					
SITE COMPONENT NAME: -			SITE COMPONENT NO: -		
LATITUDE: -26.476081°		LONGITUDE: 27.685400°		OTHER REFERENCE:	
SITE ENVIRONMENT	HILL	DUNE	PLATEAU	PLAINS	COAST
	SLOPE x	VALLEY	URBAN	RIVER	WETLANDS
SITE/COMPONENT DESCRIPTION: Modern farmstead					
ARCHITECT/BUILDER: -			BUILDING TYPE: -		
CONSTRUCTION DATE: 1960s			BUILDING STYLE: -		
HISTORY:					
EVIDENCE: Google Earth, architecture					
STATEMENT OF SIGNIFICANCE:		SITE/COMPONENT SIGNIFICANCE CATEGORY			SCORE
		1-3 = local			
		4-6 = regional			
		7-9 = national			
		Historical importance			1
		Information potential			1
		Rare/endangered			1
		Good example			1
		Aesthetic appeal			1
		Creative/Technical/Scientific			1
		Association with particular community/cultural group			1
		Association with person of historical importance			1
Condition			1		
Landmark			1		
SCORE: 1-30 = low/medium/high local			10		
31-60 = low/medium/high regional					
61-90 = low/medium/high national					
GENERAL EVALUATION	Outstanding importance	Significant	Contributing	Insignificant x	Intrusive
LEGAL STATUS: None					
PRESENT USE: Unused					
CONDITION:		GOOD x	FAIR	POOR	DERELICT
THREATS: TSF site			MANAGEMENT ACTIONS: None		
OWNER: -					
IMAGE:					

SURVEY OF: Gold Fields TSF		1:50 000 MAP: 2627 BC				
SITE NAME: Doornpoort ruin		SITE NO: FR 1				
FARM NAME AND NO: Doornpoort 347 IQ		TOWNSHIP: -				
FARM PORTION: -		STREET NAME: -				
ERF: -		STREET NO: -				
SITE FEATURES/COMPONENTS: Old homestead/barn						
SITE COMPONENT NAME: -			SITE COMPONENT NO: -			
LATITUDE: -26.459623°		LONGITUDE: 27.632338°		OTHER REFERENCE:		
SITE ENVIRONMENT	HILL	DUNE	PLATEAU x	PLAINS	COAST	
	SLOPE	VALLEY	URBAN	RIVER	WETLANDS	
SITE/COMPONENT DESCRIPTION: Ruin of stone barn/homestead						
ARCHITECT/BUILDER: -			BUILDING TYPE: -			
CONSTRUCTION DATE: 1890s			BUILDING STYLE: Transvaal vernacular			
HISTORY: Associated with old Doornpoort farmstead						
EVIDENCE: Google Earth, architecture, old aerial image						
STATEMENT OF SIGNIFICANCE:				SITE/COMPONENT SIGNIFICANCE CATEGORY		SCORE
				1-3 = local		
				4-6 = regional		
				7-9 = national		
				Historical importance		3
				Information potential		2
				Rare/endangered		2
				Good example		2
				Aesthetic appeal		2
				Creative/Technical/Scientific		2
				Association with particular community/cultural group		2
				Association with person of historical importance		2
Condition		1				
Landmark		2				
SCORE: 1-30 = low/medium/high local		20				
31-60 = low/medium/high regional						
61-90 = low/medium/high national						
GENERAL EVALUATION	Outstanding importance	Significant x	Contributing	Insignificant	Intrusive	
LEGAL STATUS: NHRA S 34 (older than 60 years)						
PRESENT USE: Unused						
CONDITION:		GOOD	FAIR	POOR	DERELICT x	
THREATS: TSF Doornpoort			MANAGEMENT ACTIONS: Avoid, document and monitor			
OWNER: -						
IMAGE:						
						

GOLD FIELDS TSF FINAL HIA 13 OCTOBER 2010

SURVEY OF: Gold Fields TSF		1:50 000 MAP: 2627 BC			
SITE NAME: Kalbasfontein ruins		SITE NO: FR 8, 9, 11			
FARM NAME AND NO: Kalbasfontein 365 IQ		TOWNSHIP: -			
FARM PORTION: -		STREET NAME: -			
ERF: -		STREET NO: -			
SITE FEATURES/COMPONENTS: Reservoirs, kraals, walls, structure ruins					
SITE COMPONENT NAME: -			SITE COMPONENT NO: -		
LATITUDE: -26.471632° - 26.476349°-26.477292°		LONGITUDE: 27.674598° 27.675603°		OTHER REFERENCE:	
SITE ENVIRONMENT	HILL	DUNE	PLATEAU x	PLAINS	COAST
	SLOPE	VALLEY	URBAN	RIVER	WETLANDS
SITE/COMPONENT DESCRIPTION: Ruins of farm reservoir, kraals and other structures					
ARCHITECT/BUILDER: -			BUILDING TYPE: -		
CONSTRUCTION DATE: 1930s			BUILDING STYLE: Transvaal vernacular		
HISTORY: Associated with old Kalbasfontein farmstead					
EVIDENCE: Google Earth, architecture, old aerial images					
STATEMENT OF SIGNIFICANCE:		SITE/COMPONENT SIGNIFICANCE CATEGORY			SCORE
		1-3 = local			
		4-6 = regional			
		7-9 = national			
		Historical importance			1
		Information potential			1
		Rare/endangered			1
		Good example			1
		Aesthetic appeal			1
		Creative/Technical/Scientific			1
		Association with particular community/cultural group			1
		Association with person of historical importance			1
Condition			1		
Landmark			1		
SCORE: 1-30 = low/medium/high local			10		
31-60 = low/medium/high regional					
61-90 = low/medium/high national					
GENERAL EVALUATION	Outstanding importance	Significant	Contributing x	Insignificant	Intrusive
LEGAL STATUS: NHRA S 34					
PRESENT USE: Unused					
CONDITION:		GOOD	FAIR	POOR	DERELICT x
THREATS: TSF new			MANAGEMENT ACTIONS: Document		
OWNER: -					
IMAGE:					
					

SURVEY OF: Gold Fields TSF A 1	1:50 000 MAP: 2627 BC
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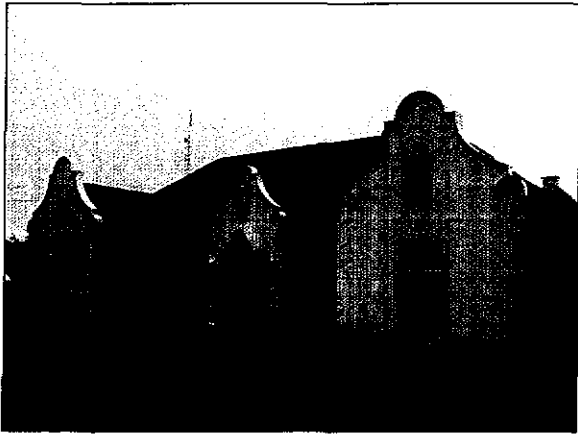
SITE NAME: Doornpoort homestead ruin			SITE NO: FR 2			
FARM NAME AND NO: Doornpoort 347 IQ			TOWNSHIP: -			
FARM PORTION: -			STREET NAME: -			
ERF: -			STREET NO: -			
SITE FEATURES/COMPONENTS: Dwelling ruin						
SITE COMPONENT NAME: -			SITE COMPONENT NO: -			
LATITUDE: -26.466258°		LONGITUDE: 27.636082°		OTHER REFERENCE:		
SITE ENVIRONMENT	HILL	DUNE	PLATEAU x	PLAINS	COAST	
	SLOPE	VALLEY	URBAN	RIVER	WETLANDS	
SITE/COMPONENT DESCRIPTION: Ruin of homestead						
ARCHITECT/BUILDER: -			BUILDING TYPE: -			
CONSTRUCTION DATE: 1930s			BUILDING STYLE: Transvaal bungalow			
HISTORY: Associated with old Doornpoort farmstead						
EVIDENCE: Google Earth, architecture, old aerial images						
STATEMENT OF SIGNIFICANCE:				SITE/COMPONENT SIGNIFICANCE CATEGORY		SCORE
				1-3 = local		
				4-6 = regional		
				7-9 = national		
				Historical importance		1
				Information potential		1
				Rare/endangered		1
				Good example		1
				Aesthetic appeal		1
				Creative/Technical/Scientific		1
				Association with particular community/cultural group		1
Association with person of historical importance		1				
Condition		1				
Landmark		1				
SCORE: 1-30 = low/medium/high local		10				
31-60 = low/medium/high regional						
61-90 = low/medium/high national						
GENERAL EVALUATION	Outstanding importance	Significant	Contributing x	Insignificant	Intrusive	
LEGAL STATUS: NHRA S 34						
PRESENT USE: Unused						
CONDITION:		GOOD	FAIR	POOR	DERELICT x	
THREATS: TSF Doornpoort			MANAGEMENT ACTIONS: Avoidance if possible. If demolition is necessary: NHRA Section 34 demolition permit application			
OWNER: -						
IMAGE:						
						

GOLD FIELDS TSF FINAL HIA 13 OCTOBER 2010

SURVEY OF: Gold Fields TSF		1:50 000 MAP: 2627 BC			
SITE NAME: Doornpoort graves		SITE NO: G 2			
FARM NAME AND NO: Doornpoort 347 IQ		TOWNSHIP: -			
FARM PORTION: -		STREET NAME: -			
ERF: -		STREET NO: -			
SITE FEATURES/COMPONENTS: Graves					
SITE COMPONENT NAME: -			SITE COMPONENT NO: -		
LATITUDE: -26.459442°		LONGITUDE: 27.634313°		OTHER REFERENCE:	
SITE ENVIRONMENT	HILL	DUNE	PLATEAU x	PLAINS	COAST
	SLOPE	VALLEY	URBAN	RIVER	WETLANDS
SITE/COMPONENT DESCRIPTION: Graves of farm workers					
ARCHITECT/BUILDER: -			BUILDING TYPE: -		
CONSTRUCTION DATE: Unknown			BUILDING STYLE: -		
HISTORY: Associated with Doornpoort farm					
EVIDENCE: Google Earth, Pistorius report, Metago info					
STATEMENT OF SIGNIFICANCE:		SITE/COMPONENT SIGNIFICANCE CATEGORY			SCORE
		1-3 = local			
		4-6 = regional			
		7-9 = national			
		Historical importance			3
		Information potential			3
		Rare/endangered			3
		Good example			3
		Aesthetic appeal			3
		Creative/Technical/Scientific			3
		Association with particular community/cultural group			3
		Association with person of historical importance			3
		Condition			3
Landmark			3		
SCORE: 1-30 = low/medium/high local			30		
31-60 = low/medium/high regional					
61-90 = low/medium/high national					
GENERAL EVALUATION	Outstanding importance x	Significant	Contributing	Insignificant	Intrusive
LEGAL STATUS: NHRA S 36					
PRESENT USE: Unused					
CONDITION:		GOOD	FAIR	POOR x	DERELICT
THREATS: None (outside TSF Doornpoort)			MANAGEMENT ACTIONS: Document, protect, monitor		
OWNER: -					
IMAGE:					

GOLD FIELDS TSF FINAL HIA 13 OCTOBER 2010

SURVEY OF: Gold Fields TSF		1:50 000 MAP: 2627 BC			
SITE NAME: Doornpoort graves		SITE NO: G 3			
FARM NAME AND NO: Doornpoort 347 IQ		TOWNSHIP: -			
FARM PORTION: -		STREET NAME: -			
ERF: -		STREET NO: -			
SITE FEATURES/COMPONENTS: 5 graves					
SITE COMPONENT NAME: -			SITE COMPONENT NO: -		
LATITUDE: -26.461219°		LONGITUDE: 27.640440°		OTHER REFERENCE:	
SITE ENVIRONMENT	HILL	DUNE	PLATEAU x	PLAINS	COAST
	SLOPE	VALLEY	URBAN	RIVER	WETLANDS
SITE/COMPONENT DESCRIPTION: 5 graves of farm workers					
ARCHITECT/BUILDER: -			BUILDING TYPE: -		
CONSTRUCTION DATE: Unknown			BUILDING STYLE: -		
HISTORY: Associated with Doornpoort farm					
EVIDENCE: Google Earth, Pistorius report, Metago info					
STATEMENT OF SIGNIFICANCE:		SITE/COMPONENT SIGNIFICANCE CATEGORY			SCORE
		1-3 = local			
		4-6 = regional			
		7-9 = national			
		Historical importance			3
		Information potential			3
		Rare/endangered			3
		Good example			3
		Aesthetic appeal			3
		Creative/Technical/Scientific			3
		Association with particular community/cultural group			3
		Association with person of historical importance			3
		Condition			3
Landmark			3		
SCORE: 1-30 = low/medium/high local			30		
31-60 = low/medium/high regional					
61-90 = low/medium/high national					
GENERAL EVALUATION	Outstanding importance x	Significant	Contributing	Insignificant	Intrusive
LEGAL STATUS: NHRA S 36					
PRESENT USE: Unused					
CONDITION:		GOOD	FAIR	POOR x	DERELICT
THREATS: TSF Doornpoort			MANAGEMENT ACTIONS: Relocate (in process)		
OWNER: -					
IMAGE:					

SURVEY OF: Gold Fields TSF		1:50 000 MAP: 2527 BC			
SITE NAME: Doornpoort farmstead		SITE NO: FD 2			
FARM NAME AND NO: Doornpoort 347 IQ		TOWNSHIP: -			
FARM PORTION: -		STREET NAME: -			
ERF: -		STREET NO: -			
SITE FEATURES/COMPONENTS: Modern farmstead with outbuildings					
SITE COMPONENT NAME: -			SITE COMPONENT NO: -		
LATITUDE: -26.462316°		LONGITUDE: 27.630845°		OTHER REFERENCE:	
SITE ENVIRONMENT	HILL	DUNE	PLATEAU x	PLAINS	COAST
	SLOPE	VALLEY	URBAN	RIVER	WETLANDS
SITE/COMPONENT DESCRIPTION: Complex of modern farm buildings, not older than 60 years					
ARCHITECT/BUILDER: -			BUILDING TYPE: -		
CONSTRUCTION DATE: Unknown			BUILDING STYLE: -		
HISTORY: Associated with Doornpoort farm					
EVIDENCE: Google Earth, architecture					
STATEMENT OF SIGNIFICANCE:		SITE/COMPONENT SIGNIFICANCE CATEGORY		SCORE	
		1-3 = local			
		4-6 = regional			
		7-9 = national			
		Historical importance		1	
		Information potential		1	
		Rare/Endangered		1	
		Good example		1	
		Aesthetic appeal		1	
		Creative/Technical/Scientific		1	
		Association with particular community/cultural group		1	
		Association with person of historical importance		1	
		Condition		1	
		Landmark		1	
		SCORE: 1-30 = low/medium/high local		10	
		31-60 = low/medium/high regional			
		61-90 = low/medium/high national			
GENERAL EVALUATION	Outstanding importance	Significant	Contributing x	Insignificant	Intrusive
LEGAL STATUS: None					
PRESENT USE: In use					
CONDITION:		GOOD	FAIR x	POOR	DERELICT
THREATS: None (outside Doornpoort TSF)			MANAGEMENT ACTIONS: None		
OWNER: -					
IMAGE:					
					

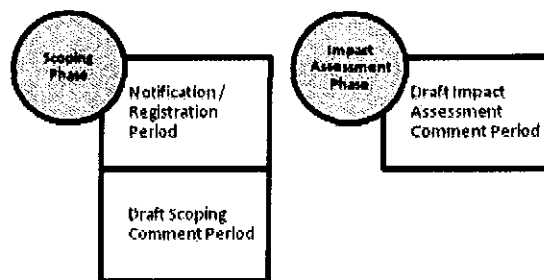
APPENDIX 3: PUBLIC PARTICIPATION REPORT

12 PUBLIC PARTICIPATION PROCESS

The public participation process is an essential component of the EIA process. The public process is an integrated process that runs in parallel with the EIA phases of a project. The EIA phases have specific timeframes in which public involvement is incorporated into the EIA process.

There are two main phases within the EIA where the public is directly involved. For the purposes of defining the public participation process, three separate phases are defined for public involvement. These are represented in the yellow blocks in Figure 12.1.

Figure 12.1: The three phases where the public are directly involved in the EIA process.



Source: Developed by Candis Lubbe

The three public participation phases are summarised in Figure 12.2 and describes the various role players and outcomes of the processes.

Table 12.1: Phases of the public participation process for the Gold Fields West Wits Project.

		Public Participation Process		
		Notification/Registration Period (May & June 2009)	Draft Scoping Comment period (Jul, Aug & Sep 2009)	Draft Impact Comment Period (Jan & Feb 2010)
Role Players	<u>Proponent</u> - Gold Fields	Proposes the "Gold Fields West Wits Project"	Respond to I&APs Comments (Comments & Response Table)	Respond to I&APs Comments (Comments & Response Table)
	<u>Consultant</u> - EnviroServ and ERM (assisting with public participation)	Notify Public of Project (advert, written notice, site notice)	Write Draft Scoping Report	Write Draft Impact Assessment Report
		Distribute Background Information Document (BID) & flyers	Notify Public of Draft Scoping Report for Comment and Invite I&APs to Public Meeting	Notify Public of Draft Impact Assessment Report for Comment and Invite I&APs to Public Meeting
	<u>Interested & Affected Parties (I&APs) - Public</u>	Receive Notification of Project	View & Comment on Draft Scoping Report and Attend Public Meeting	View & Comment on Draft Impact Assessment Report and Attend Public Meeting
		Register as I&AP	Register as new I&AP	Register as new I&AP
	<u>Authority</u> - Department of Environmental Affairs (DEA)	Informed of project through Application & Issued Reference Number	Decision regarding Final Scoping Report	Decision regarding Final Impact Report
	<u>Outcomes of this Process</u>	I&AP Database (amended throughout process) →	Final Scoping Report	Final EIA Report
		I&AP Comments & Response Table (amended throughout process) →	Amended Comments & Response Table	Amended Comments & Response Table

12.1 THE SCOPING PHASE

The Scoping Phase of the project was completed during the months of **July, August and September 2009**. The process that was followed is explained below and all evidence of the notices and activities carried out during the Scoping Phase can be viewed in ***Appendix B of this Environmental Impact Assessment Report***.

A Draft Scoping Report was written up based on various issues scoped during the public engagement process. The public was informed of this process and given an opportunity to comment on the Draft Scoping Report.

Once public comment was received, the Draft Scoping Report was finalized. The Final Scoping Report was submitted to the following relevant departments on **4 September 2009**:

- The National Department of Environmental Affairs (DEA);
- The Department of Mineral Resources (DMR);
- The provincial Gauteng Department of Agriculture and Rural Development (GDARD).

There are two components that were generated out of the public process at this point. Both components are included into the Draft and Final Scoping Reports. These are:

- The Interested and Affected Parties (I&APs) Register: This is a register or database that lists the names of each interested and/or affected member of the public, also known as stakeholders.
- The Comments and Response Table: All comments, questions and concerns were compiled into a table whereby the Proponent (Gold Fields) and the Environmental Assessment Practitioner (EAP) have responded.

The sections that follow explain the public engagement activities of the Notification and Registration Periods as well as the Draft Scoping Report comment period, both of which took place during the scoping phase of the project.

12.1.1 NOTIFICATION & REGISTRATION PERIOD

12.1.1.1 Notification of the Project and Registration Period

This period officially commenced on **4 May 2009** and ended on **13 July 2009**. A number of activities, regulated by the National Environmental Management Act (No. 107 of 1998, as amended) and what is considered good practice, were undertaken to contribute to a heightened process committed to being inclusive of those living and working in and around the proposed project area. Communication activities which took place during the notification phase include the following:

A. Newspaper advertisements

The proposed activity was advertised in the:

- Provincial newspaper, the *Noordwes-Beeld* on **30 April 2009**; and
- Local newspaper, the *Carletonville Herald* on **1 May 2009**.

The advertisement summarised the proposed development and provided I&AP's with the opportunity to register with ERM, the independent specialist facilitating the public participation process together with EnviroServ. Copies of the adverts are contained in Appendix B-1.

B. On-Site Notices

Site notices were placed at the appropriate locations where development has been proposed. Due to the dispersed nature of the various proposed activities, a total of five notices were displayed on the boundaries of the following locations:

- Kloof operation;
- Driefontein operation;
- South Deep operation;
- One site notice was placed on site where investigations are proposed; and
- One site notice was placed at the offices of the Westonaria Local Municipality.

Photographs of the site notice placements can be found in Appendix B-2.

C. Written Notification

Written notifications of the proposed development were either emailed, faxed or hand delivered to the local and district municipalities (Merafong City Local Municipality, Westonaria Local Municipality, Southern District Municipality, the West Rand District Municipality and the Johannesburg Metropolitan Municipality), neighbours, farmers and landowners in the surrounding potentially affected areas, to existing ratepayers associations as well as to other I&APs that are in close proximity to the proposed developments. The written notification can be viewed in Appendix B-3.

Other relevant authorities such as the Department of Minerals and Energy, South African National Roads Agency, South African Heritage Resources Agency, the National Nuclear Regulator, Gauteng Department of Agriculture, Conservation and Environment and the North West Department of Agriculture, Conservation and Environment were also sent written notifications and copies of the Background Information Document.

D. Background Information Document (BID) and Response Form

The Background Information Document (BID) was considered the first vital means of communication about the proposed project and was disseminated during this notification period. The BID communicated basic elements related to the proposed development and included a comment and response form within which I&APs were invited to register as I&APs and send their comments to the EAP.

The Background Information Document was distributed to the following I&APs:

- All relevant authorities;
- All relevant Ward Councilors for Merafong City and Westonaria local municipalities and the Johannesburg Metropolitan Municipality;
- The Merafong Demarcation Forum;
- Non-Governmental Organisations (NGOs) and Community-based organisations (CBOs);
- Farmers and landowners;
- Agricultural forums;
- Business forums; and
- Environmental forums.

A copy of the written notification and Background Information Document can be found in Appendix B-4.

In addition to the distribution of BIDs, further BIDs accompanied by comment boxes were left at relevant public libraries. A total of 10 comment boxes were made available at these libraries wherein I&APs were requested to deposit their response forms. The libraries at which comment boxes were located, were in Potchefstroom (1 box), Westonaria (1 box), Carletonville (1 box), Fochville (1 box) and Randfontein (6 boxes). All comments received in written or oral form have been consolidated and included within the Comments and Response Table. See Appendix B-11.

E. Flyer distribution

In an effort to build awareness and invite individuals to register as I&APs, 60 000 flyers were distributed during this notification period. The flyers were distributed so that communication with marginalised communities and informal settlements could be extended. Copies of the flyers can be found in Appendix B-5. The table below indicates the area, number of flyers as well as the language of the flyers distributed:

Table 12.2: Details on flyer distribution (Scoping Phase)

	Westonaria	Number	Language
1	Glenharvie	1272	English
2	Hills Haven	656	English
3	Libanon	266	English
4	Westonaria	1961	English
5	Bekkersdal	1400	Setswana
6	Etlebeni	110	Setswana
7	Ghana Section	1450	Setswana
8	Holomisa Section	2450	Setswana
9	Mandela Section	2610	Setswana
10	Simunye	2600	Setswana
11	Skierlik Section	1070	Setswana
12	Spoke Town	2250	Setswana
13	Tambo Section	4230	Setswana
14	Uptown Section	2000	Setswana
15	X-Section	766	Setswana
	Merafong City Local Municipality		

1	Khutsong	8900	Setswana
2	Wedela	4 230	Setswana
3	Welverdiend	660	Afrikaans
4	Blyvooruitzicht	400	English
5	Carletonville	5 780	Afrikaans
6	Carletonville	2 530	English
7	Deelkraal	420	English
8	East Driefontein Mine	180	English
9	Elandsridge	700	English
10	West Driefontein	200	English
11	Western Deep Levels Mine	670	English
12	Northdene	537	English
13	Southdene	655	English
14	Doorfontein	554	English
15	Oberholzer	1 700	Afrikaans
16	Kokosi	4 090	Setswana
17	Fochville	2 820	Afrikaans

Source: Develop by C. Lubbe

F. Focus Group Meetings

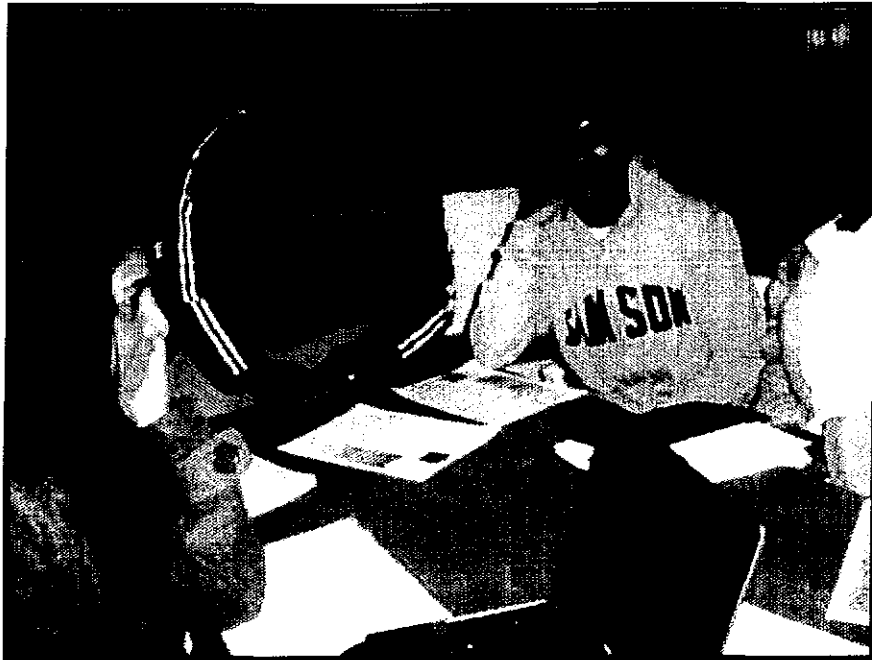
Purpose of Focus Group Meetings

The public participation process of this project is meant to be a robust process which takes account of I&APs that are directly or indirectly affected by the proposed development. It is acknowledged that the Carletonville area has 120 years of mining history and constitutes land that has been farmed for a number of years. It also supports an ever-expanding human population. Due to the proximity of people to the proposed development and in an effort to encompass a holistic view of the potential economic, social and environmental vulnerability which may result with the commencement of such a development, the public participation process demanded a detailed approach to interacting with I&APs.

Accordingly, the undertaking of focus group meetings prior to the formulation of a Draft Scoping Report was deemed both valuable and necessary. The meetings were to provide an opportunity for the scoping of issues. In addition, these meetings allowed the project team to meet and start building a constructive working relationship with I&APs. Questions and comments raised at these meetings have been incorporated into the Comments and Response Table of this Scoping Report. See Appendix B-11.

The focus group meeting approach at such an early stage to the scoping and comment period is viewed as being beyond the requirement for compliance as is included within the National Environmental Management Act's (No. 107 of 1998) requirements for the sharing of information with the public. (Typically such sharing of information with public would be undertaken within a public meeting).

Figure 12.2: Focus Group Meeting held in Blybank, Carletonville



Source: Picture taken by Candis Lubbe

Composition of Focus Groups

Each focus group comprised a representative number of people that were grouped together as a result of their particular interest, affiliation and/or area of expertise. Due to the geographical spread of the Gold Fields affected area, it was important to create an opportunity for as many focus group meetings as possible. With this in mind, meetings were undertaken in both the Westonaria and Merafong City local municipal areas, allowing a wide range of participants to interact with the project team scoping the issues.

Meetings were held with 24 focus groups, involving a total of 156 individuals that participated in these meetings. There were 11 types of focus groups. They included: Authorities, Municipal Ward Councillors, Municipal Ward Committee members, Non Governmental Organisations (NGOs); Land owners, farmers and agricultural associations;

Environmental interest groups; Businesses and business forums; Khutsong Demarcation Forum; Labour Unions; the Mining Interest Group and Individuals.

The meetings were undertaken over the period **1 June to 6 July 2009**. A full list of attendees can be found in Appendix B-10. Consolidated summaries of every focus group meeting can be viewed in Appendix B-16. While many focus group meetings were attended, some participants opted for a telephonic meeting. While the comments and questions received at these meetings have been incorporated into the Comments and Response Table found in Appendix B-11, a further assessment of the issues emanating from these focus group meetings is contained within Chapter 13 of this report.

12.1.1.2 Summary of Issues from Notification / Registration Period

All comments received were divided into categories of the types of issues and calculated as a percentage of the total number of comments. Figure 12.5 illustrates the types of issues that were raised in the Notification / Registration Period and is compared to the Draft Scoping Comment Period. The graph was formulated in order to determine where the bulk of interest lay with the public in order to accommodate the process going forward.

The majority of issues that were raised during this period were related to:

- **Environment - 30%:** these issues made reference to environmental damage cause by mining activities; toxicity and radiology; water and air quality, soil contamination as well as agricultural land.
- **Social and Economic - 20%:** these issues related to concerns about community safety and health; local opportunities and contracts; aesthetic issues; and land owner concerns.

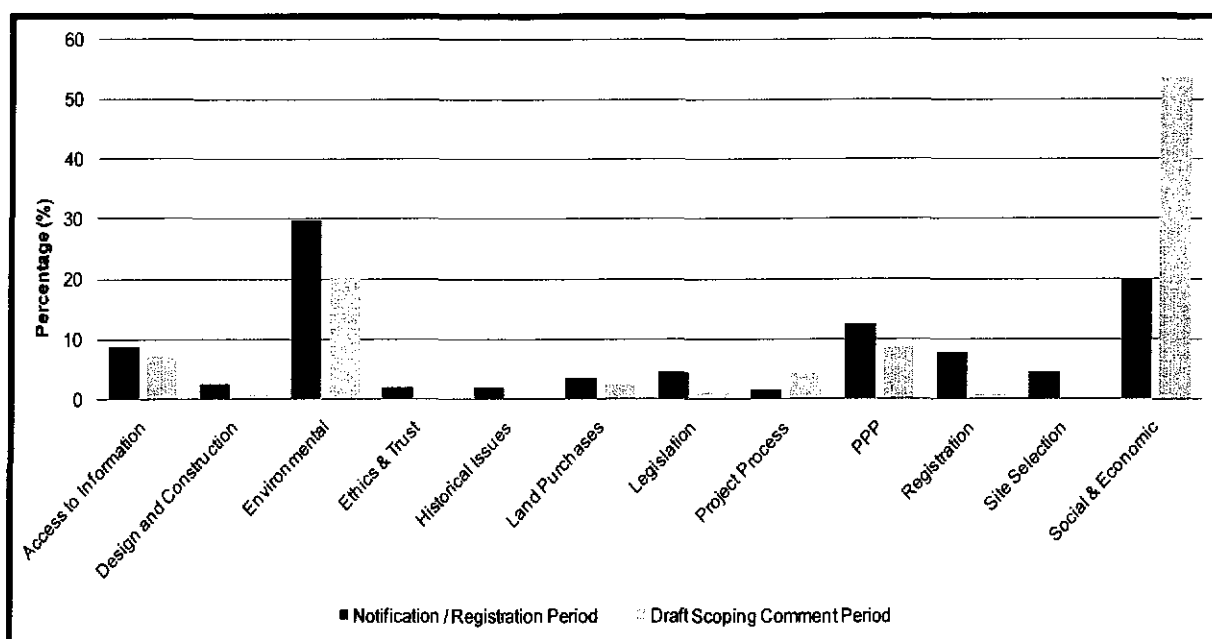
Less common issues included the following:

- **Public Participation Process (PPP) – 13%:** Code of ethics; Fatal flaws; correspondence and availability of the DSR,
- **Access to Information – 9%:** included issues about access to information such as the Water Use Licence's (WULs) and aligned Environmental Management Plans (EMPs) as well as general information updates on the project.

- Registration – 8%: Used this registration period to register as an Interested and Affected Party (I&AP)

Please see the discussion in Chapter 13 for more information on some of these issues.

Figure 12.3: A comparison between the types of issues that were raised in the Notification / Registration Period and the Draft Scoping Comment Period



Source: Developed from comments received during Scoping Phase

12.1.2 DRAFT SCOPING COMMENT PERIOD

The *comment period* for the Scoping Phase was held over the period **24 July 2009 to 28 August 2009**. The consolidated list of I&APs identified up to this period were invited to render comment on the Draft Scoping Report (DSR) for a period of five weeks from the date of it being made available. The DSR was made available at the public libraries of Carletonville, Fochville and Westonaria for the entire comment period.

On request, electronic copies on CD were issued via post or for collection from the EAP's office in Johannesburg. I&APs were also offered the alternative to download the DSR from an especially established website, www.westwitsproject.co.za. During this comment period of the Scoping Phase, a public open day session followed by a public meeting, was held.

12.1.2.1 Open Day and Public Meeting

The Open Day and Public Meeting took place on **15 August 2009** at the Gold Fields Country Club in Glenharvie. The open day session ran from 10h00 to 12h00 and the public meeting commenced at 12h30 and ended at 15h30 on the same day.

To ensure that the DSR was accessible to a broad range of I&APs and in an effort to ensure that these I&APs were aware of, and invited to the events of the open day and public meeting, the following activities were undertaken:

A. Notices

An announcement of the availability of the DSR and an invitation to the open day and public meeting was published in the following:

- Provincial newspaper, the *Noordwes-Beeld* **24 July 2009**; and the
- Local newspaper, the *Carletonville Herald* on **24 July 2009**, see Appendix B-1
- Government Gazette (Notice 234 of 2009) on **28 July 2009**.

A copy of the notification of the DSR availability and invitation to the open day and public meeting can be viewed in Appendix B-1.

B. Flyers

An announcement of the availability of the DSR and an invitation to the open day and public meeting was also undertaken via:

Electronic distribution

This included the faxing, email or posting of notifications and invitations to an estimated 600 I&APs contained in the I&AP database at the time (this included all I&APs that received written notifications and BIDs during the project's notification phase). This exercise commenced on **15 July 2009** and continued for the benefit of those I&APs that sought registration leading up to **15 August 2009**;

Hand Distribution

This included the distribution of 60 000 notifications and invitations in flyer-form were handed out to the potentially affected areas three weeks in advance (21 – 23 July 2009) of the open day and public meeting.

C. Provision of Transport

Transport to the open day and public meeting venue on **15 August 2009** was provided. The schedule of the bus route options were also faxed, emailed or posted to all I&APs contained in the database. A copy of the bus schedule can be found in Appendix B-9. People wishing to make use of the transport sent a Short Message Service (SMS) to the EAP to “please call me” (the number was specified on the flyers). They were telephoned back and advised which bus stop they could utilize to catch the pre-planned bus route. Overall, 189 “please call me’s” were received prior to the public meeting and open day. This constituted a progressive use of modern technology to engage with, and encourage I&APs to interact project EAP.

D. Media

The media (such as Carletonville Herald, Sunday Times and Business Day) were also present (some through invitation) at the open day and public meeting and articles were published in the associated newspapers in subsequent weeks. These articles can be viewed in Appendix B-8.

12.1.2.2 Description of the Draft Scoping Comment Period

I&APs were at liberty to attend either: the open day session, public meeting, or both. The open day session was designed to promote the I&AP’s access to information on the proposed development and the contents of the Draft Scoping Report. The I&AP’s were invited to make comments relating to any aspect of the proposed development, to the project specialists that were available for the duration of the public open day.

The open day itself was designed to enhance I&APs interaction with specialists. Specialists had displayed posters of the most critical elements of their studies which were

open to public viewing and comment. Copies of the Draft Scoping Report were made available in hard copy for viewing, and on CD to take away. Some photographs of the open day and public meeting held on **15 August** are found in Appendix B-9. A full database of I&APs recorded for the process to date, can be found in Appendix B-10.

The public meeting proceeded the open day session with the inclusion of a catered lunch. Copies of BIDs were made available in five languages together with comments and response forms for I&APs to fill in. Attendance registers collected from the public meetings reflect a record of 353 people that came from areas such as Simunye, Khutsong, Bekkersdal, Skopas, Noordburg, Potchefstroom, Carletonville, Fochville, Wedela, Blybank and Westonaria. An interpreter was made available to translate in Zulu and Setswana as the meeting progressed. Participants were very interactive, with many opting to also fill in comments and response forms for inclusion into the Final Scoping Report.

The meeting minutes can be found in Appendix B-9 together with a database of the registered participants and photographs of the Public open day and meeting.

12.1.2.3 Summary of Issues from Draft Scoping Comment Period

Figure 12.5 illustrates that the types of issues that were raised in the Draft Scoping Comment Period are summarised below.

The majority of issues that were raised during this period related to:

- **Social and Economic - 54%:** Most of these issues related directly to the creation of jobs; the employment of contractors; provision of skills development; opportunities for local SMMEs; community involvement; poverty alleviation.
- **Environment - 20%:** concerns over the size of TSF; general environmental degradation; dolomitic land and sinkholes; biodiversity; water purification; Acid Mine Drainage (AMD) and management of pollution.

Less common issues included the following:

- **Public Participation Process (PPP) - 9%:** Code of ethics; fatal flaws; correspondence and availability of the DSR

- Access to Information - 7%: includes requests to access the Draft Scoping Report; land and farm owner enquiries to information; vendor process; map and site identification.

Please see the discussion in Chapter 13 for more information on some of these issues.

Gold Fields and the Environmental Assessment Practitioner (EAP) have responded to all the comments raised until the end of the Scoping Phase of the EIA process and this will be included in the Draft Environmental Impact Report.

12.2 THE IMPACT ASSESSMENT PHASE

12.2.1 DRAFT IMPACT ASSESSMENT COMMENT PERIOD

The Draft Impact Assessment Comment Period was initiated once the DEA indicated that the Scoping Report (and associated Plan of Study) was acceptable. Specialist studies were carried out as part of the Impact Assessment Phase of the EIA, and have been consolidated to form the Draft Environmental Impact Report (DEIR). The Impact Report (in its draft form) was made available to the public for their comment from **15 January – 15 February 2010**. During this period the public had an opportunity to view and comment on the Draft Environmental Impact Report. The consolidated list of I&APs that currently exist was utilised to invite I&APs to view and make their input toward the DEIR for a period of thirty days (4 weeks) from the date of it being made available. The outcomes of this process include an amended:

- I&AP Register and
- Comments and Response Table.

Various activities were planned for executing the Impact phase of the project. The following methods were used to build awareness amongst stakeholders, inviting them to raise their comments, issues and concerns with the EAP:

A. Newspaper Notices

An advertisement to inform the public of the availability of the DEIR, the DEIR comment period, and the open day and public meeting was published in the local newspaper (*Carletonville Herald*) on the **15th of January 2010** (erratum published on the 22nd of

January 2010) and provincial newspaper (*Noord-Wes Beeld*) on the 29th of January 2010. This marked the beginning of the Draft Impact Assessment Comment Period. A copy of the advertisement is contained in **Appendix B-1**.

B. Flyers

The same notification that was modified into a flyer form and distributed between the period **11 - 21 January 2010**, in the following two ways:

- i. Distribution by email/fax/post to all existing I&APs that were registered on the database. This took place between **11 and 14 January 2010**;
- ii. Distribution of flyers :
 - a. Depositing of flyers into residential Post boxes in Carletonville (1642 Post boxes), Fochville (1300 Post boxes) and Westonaria (900 Post boxes). This took place on the **15th of January 2010**.
 - b. Hand deliveries to residents between **18 and 21 January 2010**.

The table below indicates the area, number of flyers as well as the language of the flyers that were delivered.

Table 12.3: Details on flyer distribution (Impact Phase)

	Westonaria	Number	Language
1	Glenharvie	1272	English
2	Hills Haven	565	English
3	Libanon	266	English
4	Westonaria	1961	English
5	Bekkersdal	1400	Setswana
6	Etlebeni	110	Setswana
7	Ghana Section	1450	Setswana
8	Holomisa Section	2450	Setswana
9	Mandela Section	2610	Setswana
10	Simunye	2600	Setswana
11	Skierlik Section	1070	Setswana
12	Spoke Town	2250	Setswana
13	Tambo Section	4230	Setswana
14	Uptown Section	2000	Setswana

15	X-Section	766	Setswana
	Carletonville		
1	Khutsong	920	Setswana
2	Wedela	4 230	Setswana
3	Welverdiend	660	Afrikaans
4	Blyvooruitzicht	400	English
5	Carletonville	5 780	Afrikaans
6	Carletonville	2 530	English
7	Deelkraal	420	English
8	East Driefontein Mine	180	English
9	Elandsridge	700	English
10	West Driefontein Mine	200	English
11	Western Deep Levels Mine	670	English
12	Northdene	537	English
13	Southdene	655	English
14	Doorfontein	554	English
15	Oberholzer	1 700	Afrikaans
16	Kokosi	4 090	Setswana
17	Fochville	2 820	Afrikaans

Source: Developed by C. Lubbe

C. Government Gazette

The notice stipulating the start of the Draft Environmental Impact Report period was published in the Government Gazette on the **19 January 2010**.

D. SMS Service

An Short Message Service (SMS) was used to contact all listed cellular telephone numbers of those individuals within the I&AP Register. The SMS was sent out on the **13th of January 2010** to inform the public of the date, time and venue of the public meeting and open day.

E. Provision of Transport

Four buses were provided for the collection and consequent drop-off of interested parties at the following areas:

- Westonaria

- Bekkersdal
- Blybank
- Greenspark
- Poortjie
- Khutsong

Bus schedules were distributed on the reverse side of the public meeting and open day invitations.

F. Public Meeting and Open Day

A public meeting and open day was held on Saturday **30 January 2010** at the Gold Fields Country Club in Glenharvie. The open day provided the public with an opportunity to interact with the specialists and obtain information or provide comments at their own leisure. This took place between 10h00 -12h00. The public meeting was held on the same day from 12h30 to 15h00, where the Draft Impact Assessment was presented, followed by a discussion session where the public openly raised questions, concerns and issues.

The Comments and Responses Table can be found in Appendix B-11 of this report.

The register renders a record of comments, questions and concerns that had been voiced by I&APs during the course of the project notification and comment period on the Draft Scoping Report. The responses to the raised issues and concerns had been provided by either Gold Fields or the EAP.

The questions, comments and concerns found within the register were captured in order of the date received and have been categorised into 'comment categories' that include: Access to information; Registration; Public participation process; Legislation; Environmental, Social and Economic; Design and construction; Land purchases; Site selection; Historical issues; Project process; and Ethics and trust.

All comments, issues and concerns recorded within the Draft Impact Assessment comment period have been included in the Comments and Response Table along with I&AP requested addendums.

12.2.1.1 Summary of Issues from the Impact Phase

Figure 12.8 illustrates the types of issues that were raised during the Impact Assessment Phase and are summarised below.

The majority of issues that were raised during this period related to:

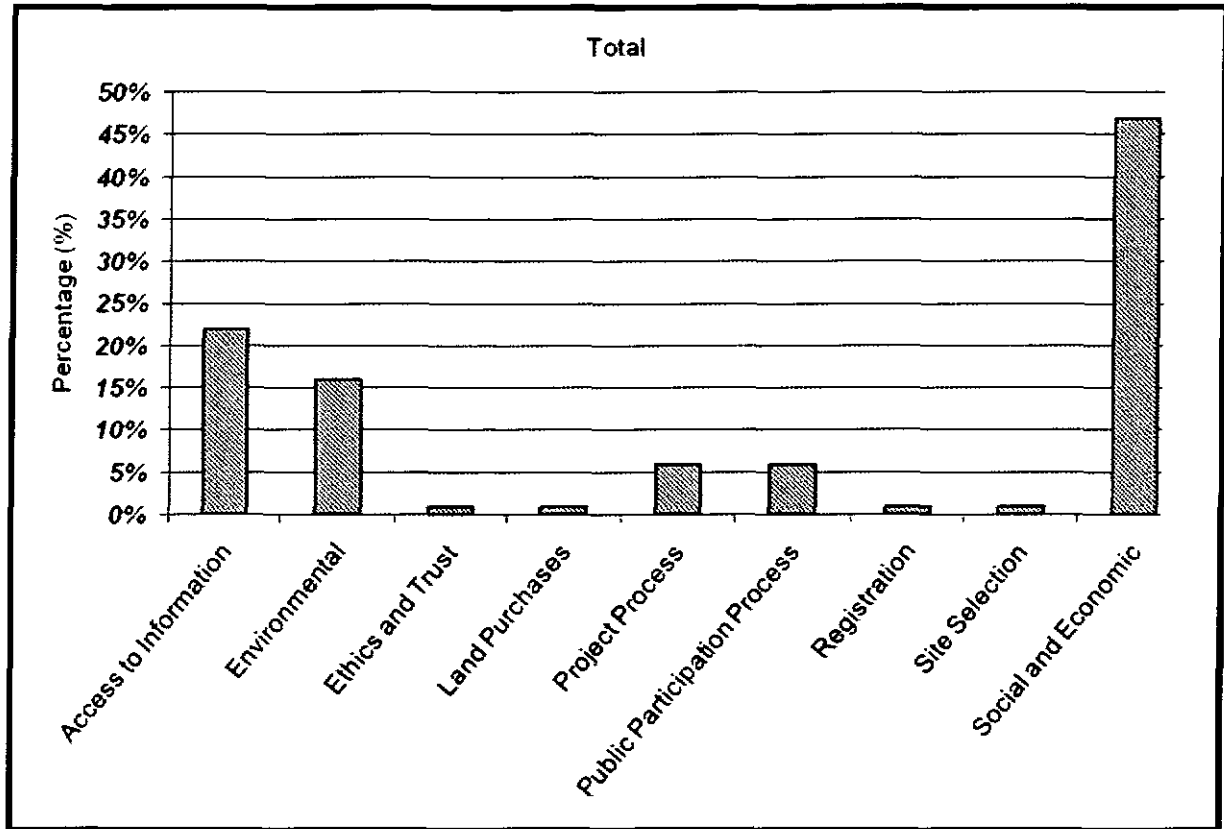
- **Social and Economic - 47%:** Most of these issues related directly to the creation of jobs; the employment of contractors; provision of skills development; opportunities for local Small Micro and Medium Enterprises (SMME's); community involvement and poverty alleviation of affected communities.
- **Access to Information - 22%:** Comments that were received in this category regarded access to the Draft Environmental Impact Assessment Report as well as information regarding the provision of transportation to the open day and public meeting on the 30th of January 2010.
- **Environmental – 16%:** Comments in this category involved concerns around the environmental impacts of the proposed project. For example air, water pollution, etc.

Less common issues included the following:

- **Public Participation Process (PPP) - 6%:** Involving communities in all aspects of the project and correspondence with stakeholders.
- **Project Process – 6%:** questions relating to the start and end dates of the project.

Gold Fields and the Environmental Assessment Practitioner (EAP) have responded to all the comments raised until the end of the Impact Phase of the EIA process.

Figure 12.4 Percentage of the types of issued that were raised in the Impact Assessment Comment Period.



Source: Developed from comments received during Impact Phase - ERM

#	FORM OF COMMENT & DATE RECEIVED	COMMENT FROM	GROUP	PHASE	COMMENT CATEGORY	COMMENT	RESPONSE
						*Most Emails, Faxes and Response Forms have been incorporated in the manner received	
53				Scoping Phase	Legislation	Mineral waste is excluded as waste within the mining law. Waste is considered as stockpile waste and is excluded on the basis of definition and validity of it being a resource. Need to check whether its still waste if outside mine perimeter. Have not been applied under Act 8, 9 of NEMA. But have also applied to the DME, DWAF etc. for other activities. All different pieces of legislation is being adhered to (NEMA, MPRDA, DWAF etc. NNR Act, Air Quality Act etc. (68 Acts) are all important. We are applying to SAHRA (because there are dolomitic areas – possible care areas). Paleontological/cultural heritage must be considered – as a scientific basis	Comment noted - thank you.
54				Scoping Phase	Environmental	<ul style="list-style-type: none"> • Is the waste outside or inside the normal mining perimeter? It cannot be a resource or mining activity, it's a dump under DWAF. • Various applications (NEMA, MPRDA, ECA) should all be integrated • If the process is registered with DEAT (they are end decision- makers) – worried that DEAT may give authorisation without local knowledge and DME/DWAF approval. • Gold Fields has current tailings sitting on toxic and radioactive sediments – heavy metals can move – acid mine drainage and this will continue for centuries. 	Comment noted - thank you.
55				Scoping Phase	Historical Issues	West Driefontein is the richest mine in South Africa – this mine made the most profits after 30 years of re-mining. Gold Fields de-watered West Driefontein and has subsequently lost its agricultural potential. (According to the EMP report – Section 6 – it is legally binding to clear radioactive material). All surface water in West Driefontein is toxic (acid mine drainage). (Cannot remove sulphates unless it is desalinated). Water is unfit for human consumption.	Gold Fields approaches issues of this nature in a scientific manner. All decisions regarding actions required, are based on published and peer-reviewed scientific reports. On the same basis, all allegations made, are expected to be have equal scientific merit.
56				Scoping Phase	Project Process	<ul style="list-style-type: none"> • Consider legitimate concerns of farmers • I&APs will accept TSF if done logically, legally and with minimal risk to people • IAP's are under the impression that Driefontein will be mined first. Is this the case? • Make it clear if it will be all 13 dams to be removed • Look at DNA (fingerprinting) water. Where are nitrates from? • Have Gold Fields submitted a rehabilitation plan for the areas to be re-aligned? • You have to have aligned EMPR's (South Deep/Kloof, Driefontein) • Land-use and water compatibility must be investigated • Verify with Gold Fields (has Driefontein been upgraded?) • (has South Deep been upgraded?) This is legal – since they are exempt from the EIA – due to no increase in human capacity. • All alternatives must be assessed, whether economically viable or not. 	Points noted, and are currently included in the EIA process and the associated public participation process. Many of the outcomes/actions to be taken, will be informed by the specialist' studies and ongoing operational activities. Some of the issues are also closure-related, and as such, are being dealt with in different processes.
57				Scoping Phase	Public Participation Process	Input of public influences must be included in the scoping report and site selection report. A comparative view of options should be provided during public participation, and these options should be scaled down. Each phase (of the project) should have its own process i.e. different phases/interests should have its own public participation process. The developer must set the criteria, evaluate all the sites, let non-technical people view the report, then send it back, then public/local knowledge could be worked in.	Points noted, and are currently included in the EIA process and the associated public participation process. Many of the outcomes/actions to be taken, will be informed by the specialist' studies and ongoing operational activities. Some of the issues are also closure-related, and as such, are being dealt with in different processes. The site identification and selection process is being dealt with as per legal requirement.

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167	Email - PROPOSED PUBLIC MEETING 12 August 2009	Mariette Lieferink	CEO: Federation for a sustainable environment	Scoping Phase	Environmental	It is strongly advised that all source terms, pathways and receptors pertaining to the following impacts must be addressed in the Environmental Impact Assessment of the proposed project: (i.) Elevated levels of radioactivity (ii). Radiological impacts: Plants (iii). Radiological impacts: Soil (iv.) Regional pollution of shallow, deep groundwater and surface water including the contribution of salt load to the Leeuwspruit and eventually the Vaal Barrage by way of point source discharges and seepages. (v). Health Impacts (vi). Heavy metal contamination (vii). Toxic and radioactive dust fall out (viii). Acid Mine Drainage (ix). Unfavourable soil conditions in the presence of pyritic tailings. (x). Impacts during reclamation of tailings dams. (xi). Rehabilitation of tailings footprints (xii). Site selection process. (See appended document)	Thank you for your comments. All relevant issues will be considered during the EIA process and the associated environmental and technical specialists' studies.
168	Email - I&AP Meetings 14 August 2009	Eugene Viljoen	Private	Scoping Phase	Public Participation Process	My previous e-mails has reference. My I suggest that you call up the entire Pdf Report on the Net, in fact there are several in the same vain, all tying in with Service delivery and the present upheavals. We make a great show of our so called updated Laws but then negate them with protocol procedures, and definition of common English word meanings, the only purpose that serves is to create work for the legal fraternity, what remains lacking is the Justice aspect. Please include these comments in your application submissions, as it will be included in the direct communications with the various Ministries For those of you that have clients, who published "Ethic codes" on stock Market requests for Investment, ask your clients to please implement them (See appended document)	Comments noted. Our telephonic conversation refers. Thank you for your inputs, we will certainly consider it as part of our assessment.
169	Fax: 14 August 2009	Nkosinathi Tomose	Cultural Heritage Officer, South African Heritage Resources Agency	Scoping Phase	Access to information	The receipt of your Public Notice regarding the above mentioned development is hereby acknowledged. In terms of Section 38 of the National Heritage Resources Act, No 25 of 1995 (NHRA), SAHRA requires to be fully furnished with sufficient information to determine the possible impact on heritage resources in the proposed area of development. We request that a Heritage Impact study be undertaken as part of the EIA process. Please be advised that we will only comment on the Heritage Impact Assessment that you will submit. Should you have any queries, please do not hesitate to contact the undersigned at the above telephone and/or facsimile number (in I&AP database).	Thank you for your comment. A Heritage Impact Study has been included in the scope of the EIA, and is being conducted in accordance with the requirements of the NHRA.
170	Response form obtained at a Public Meeting and Open Day	Andrew Kgolo	Private	Scoping Phase	Environmental	Concerned with the health of the communities in question.	Health issues is being considered/assessed in terms of the impact assessment regarding air quality, water quality and radiation.
171				Scoping Phase	Social and Economic	No politicians should be involved in order to avoid disappointing people because politicians are card-carrying members of a particular political party.	Comment noted. It should however be highlighted that the EIA engagement process is intended to accommodate all stakeholders.
172	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Joseph Kgati	Private	Scoping Phase	Environmental	Health of the communities in question	Health issues regarding air quality, water quality and radiation are being considered/assessed in terms of the impact assessment.
173				Scoping Phase	Social and Economic	Job creation and youth employment. No politicians should be involved in order to avoid disappointing people because politicians are card-carrying members of a particular political party.	Comment noted. It should however be highlighted that the EIA engagement process is intended to accommodate all stakeholders.

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187	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Andrew Motsaujai Tsilo	Private	Scoping Phase	Social and Economic	There should be jobs scheduled for residents, how am I going to benefit in terms of job opportunities (social status)? The relocation of graves will disturb and traumatise certain people (if they had to see it)	Comment noted. The manpower and skills requirements for this project will be determined during the feasibility studies. Only after the finalisation of this, would decisions around these two aspects be taken. The relocation of graves, if needed, will be done with consent from family, with the utmost respect and in accordance with the requirements of the National Heritage Resources Act (NHRA).
188				Scoping Phase	Environmental	The quality of the air we breath depends on nature, plants, trees etc. It is extremely important to look after nature. The dumping site will affect people in years to come as it is too near.	Comment noted. An air quality study forms part of the EIA scope and will investigate the relevant issues.
189	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Monwabisi Kula	Private	Scoping Phase	Social and Economic	To gain profit as a contractor and find ways in which we can work together. Employment Involvement of the community (in the project)	Comment noted. The manpower and skills requirements for this project will be determined during the feasibility studies. Only after the finalisation of this, would decisions around these two aspects be taken. In terms of registration as a Gold Fields' vendor: Gold Fields' Procurement Policies and Vendor Selection Terms of Reference specify procedures and a 5-step process that must be strictly complied with before any company is listed onto the Gold Fields database. The 5-step process starts with a needs analysis (i.e. is the product or service being offered needed at any of the Gold Fields mining operations) and culminates in the listing of such a company after the completion and submission of a Vendor Application Form. Please contact Andrew Marumo, from Gold Fields Shared Services: BEE & HDSA Development Unit, on 018 788 7296/fax: 086 554 8067/e-mail: andrew.marumo@goldfields.co.za, for more information regarding the Gold Fields vendor registration process. Please note that the allocation of a Gold Fields vendor number, i.e. the registration as a Gold Fields vendor, and the use/purchase of any product or service, are subject to Gold Fields' needs.
190				Scoping Phase	Environmental	How safe will the dumps and nuclear reactors be? Purification of water Remediation of the footprint Toxic waste observation and maintenance	There will be no nuclear reactor as part of this project. The proposed centralised TSF will adhere to all environmental, safety and other regulations. Mine process water will be purified. After re-mining, the footprints will have to be rehabilitated in line with acceptable practice and standards - this however, does not form part of this project scope, but will be dealt with in terms of closure requirements. Hazardous substances will be dealt with in terms of legislation and existing Gold Fields operational practices and protocols around this. It must be noted that no toxic waste will be produced during the process.
191	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Mrs Mookho Lethae	Private	Scoping Phase	Social and Economic	As a member of the community staying in the informal settlement near the mine (South Deep), I think this project will promise us something positive (that will help us). I will be glad if the poor benefit (from this project).	Comment noted.
192				Scoping Phase	Public Participation Process	My concern is that the community must be involved, especially those who are residing close to the affected areas.	Comment noted.
193	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Dora Kleinhang	Private	Scoping Phase	Social and Economic	Provide skills development and employment for the unemployed people. Create jobs for people from Bekkersdal, Simunye and the Merafong community.	Comment noted. The manpower and skills requirements for this project will be determined during the feasibility studies. Only after the finalisation of this, would decisions around these two aspects be taken.

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221	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Nthabiseng Tshabalala	Private	Scoping Phase	Social and Economic	Will our cleaning campaign be affected by the project. If yes, how? How will the pipelines affect our heritage sites, e.g. graveyards? Are there any guarantees of jobs if this project succeeds?	The project should not affect the said cleaning campaign, but this will be confirmed by the EIA process. A Heritage Impact Assessment is being conducted in terms of the National Heritage Resources Act (NHRA), and if there are any impacts on heritage sites such as graveyard, etc., these will be dealt with in terms of the provisions of the NHRA.
222				Scoping Phase	Environmental	How safe will the running water be from chemicals?	The objective of the water treatment plants would be to remove chemicals and other substances from the mine water circuit, in order to generate a better quality water.
223	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Solomon Maetso	Private	Scoping Phase	Environmental	How will the project protect the environment? How will this dumping affect Suurbekom and surrounding areas.	The Environmental Impact Assessment (EIA) process will investigate the different impacts associated with the project, and how to deal with and manage these. These mitigation measures will be contained in an Environmental Management Programme (EMP) which is a legal requirement and compliance to this will be audited on a regular basis. The project is inherently designed to further remove potential contaminants, which will therefore further reduce the risks.
224				Scoping Phase	Social and Economic	Will the project not affect our graveyards?	A Heritage Impact Assessment is being conducted in terms of the National Heritage Resources Act (NHRA), and if there are any impacts on heritage sites such as a graveyard, etc., these will be dealt with in terms of the provisions of the NHRA.
225				Scoping Phase	Design and Construction	Why are they not pumping the slime back underground?	The bulk density of milled material, i.e. tailings/slimes is much lower than that of the rock density of the ore body. As such, one needs a much larger underground space to take the same volume of milled material back underground. In addition, extensive infrastructure is needed for this kind of operation. Back-fill practices are followed at certain mines where practical and applicable, and are essentially used as a regional support system.
226				Scoping Phase	Public Participation Process	Why did this assessment not communicate with relevant stakeholders?	The public participation process is designed to ensure that communities and Interested & Affected Parties (I&APs) are involved in the EIA process and hence the project
227	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Father Ramadibeng Ratsoeu	Private	Scoping Phase	Environmental	Our community interest is in relation to the health status of our communities in relation to the question of environmental pollution on water and air. The crux of the matter is around toxic waste and metals and its effect on communities. Rehabilitation of the soil and water for vegetation or farming processes should be addressed	Comment noted. Health issues regarding air quality, water quality and radiation are being considered/assessed in terms of the impact assessment. Rehabilitation of the "old" TSF footprints will take place at a later stage.
228				Scoping Phase	Social and	The project is essentially based on job creation and other related issues	Thank you for your comment.
229				Scoping Phase	Historical Issues	It is of paramount importance to address the disparities of past environmental challenges.	Comment noted. An important imperative of this project is to address some of the past environmental challenges.
230	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Xoliswa Fokoto	Private	Scoping Phase	Social and Economic	Business Interest, specifically in plumbing, as a sub-contractor	Thank you for your comments. The manpower and skills requirements for this project will be determined during the feasibility studies. Only after the finalisation of this, would decisions around these two aspects be taken.
231	Response form obtained at a Public Meeting	John Lephuting	Lephuting Construction and Projects	Scoping Phase	Social and Economic	Building (material) supply and security Give disadvantaged businesses a chance	Thank you for your comments. The manpower and skills requirements for this project will be determined during the feasibility studies. Only after the finalisation of this, would decisions around these two aspects be taken.
232				Scoping Phase	Access to Information	Request for five copies of the DSR	Comment noted. Please contact ERM or EnviroServ directly for copies of the DSR.

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233	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Paul Ncwane	Private	Scoping Phase	Environmental	Water re-use and farming	Comment noted.
234	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Mzumdle Soxokashe	Private	Scoping Phase	Environmental	What will be done with the dams in Westonaria? What about the health of the people? When water is contaminated around the mining industry, who do we sue for the health risk?	The Gold Fields dams (=TSFs) in the Westonaria area, such as the two dams at Venterpost, are considered as part of the project. Health issues regarding air quality, water quality and radiation are being considered/ assessed in terms of the impact assessment.
235				Scoping Phase	Social and Economic	Give opportunities to the youth in Bekkersdal to undertake studies in water quality and environmental impacts in the area. Did you know that there are graves behind Libanon Hospital? How can families, that have lost their graves to business developments in Westonaria, be compensated and by who?	Thank you for your comments. The manpower and skills requirements for this project will be determined during the feasibility studies. Only after the finalisation of this, would decisions around these two aspects be taken. Thank you for pointing out the graves behind Libanon Hospital. W.r.t. the lost of grave sites, it is recommended that you contact the provincial office of the South African Heritage Resources Agency (SAHRA), for assistance in this regard.
236	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Madire	Private	Scoping Phase	Project Process	Investigate the impacts of traffic as well as the impacts of electricity usage.	The inclusion of these aspects in the scope of the EIA, will be investigated.
237	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Ishmael Rampura	Private	Scoping Phase	Social and Economic	Community employment Lack of employment must end Pain and suffering must end	Thank you for your comments. The manpower and skills requirements for this project will be determined during the feasibility studies. Only after the finalisation of this, would decisions around these two aspects be taken.
238	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Happy William Tshwaede	Private	Scoping Phase	Social and Economic	Studying and working in the mine. Building skills for people. People who work for Gold Fields must be protected. Gold Fields must take its people and give them skills. Gold Fields must invest in peoples studies.	Thank you for your comments. The manpower and skills requirements for this project will be determined during the feasibility studies. Only after the finalisation of this, would decisions around these two aspects be taken.
239	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Solomon Mpone	Private	Scoping Phase	Environmental	Why does the mine not use rain water (during operation). Why not purify sewer water?	Rainwater is part of the water cycle and therefore contributes towards the groundwater re-charging process. Rainwater is therefore part of the mine fissure water which is pumped out for safety reasons. The use of water regardless of its source, is subject to regulatory requirements. The mine has a requirement for a specific volume of water, to be used as process water, and this has to be supplied on a constant basis, which is subject to previous permits or the new water use licenses. Sewage water is being treated to an acceptable standard and the treated effluent released to the environment. This is also subject to regulatory requirements.
240	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Tebogo Modise	Private	Scoping Phase	Social and Economic	How will the community benefit from this project?	The manpower, skills requirements and other business opportunities for this project will be determined during the feasibility studies. Only after the finalisation of this, would decisions around these two aspects be taken. Gold Fields' procurement department will have to be approached in respect of registration as a vendor and the supply of products and services, as per internal governance requirements.

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253				Scoping Phase	Environmental	Concern regarding groundwater. Dust and control after commissioning	The Environmental Impact Assessment (EIA) process will investigate the different impacts associated with the project, and how to deal with and manage these. These mitigation measures, such as the relocation of fauna and flora if needed, will be contained in an Environmental Management Programme (EMP) which is a legal requirement and compliance to this will be audited on a regular basis.
254				Scoping Phase	Public Participation Process	Notifying public of the project - only found out about the meeting today by chance.	A large number of flyers have been distributed to announce the date and venue of the meeting. In addition, adverts regarding this have also appeared in the local newspapers.
255	Response form obtained at a Public Meeting and Open Day - 15 August 2009	S. Dlamini	Private	Scoping Phase	Design and Construction	As rehabilitation would be continuous, could the community be involved in the rehabilitation process? If so, how can the community be involved? Community assistance will only be possible if such a process is not technical and just involves re-soiling the tailings dam and re-vegetating it.	Thank you for your comments. The manpower and skills requirements for this project will be determined during the feasibility studies. Only after the finalisation of this, would decisions around these two aspects be taken. Gold Fields' procurement department will have to be approached in respect of registration as a vendor and the supply of products and services, as per internal governance requirements
256	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Izrat Uthmaan Mangali	Private	Scoping Phase	Social and Economic	I have opened a theatre complex, gallery and catering/conference centre in Westonaria, N12/R28 Waterpan. The business still requires development and I seek funds. I have the space for renovation and infrastructure, I am responding to the lack of FET and Centres. The proposal is good but people must be involved in meetings and structuring (of the project). With much respect we are looking forward to being involved, to reshape our communities. Yes, Gold Fields, I have sent my project proposal last month and I believe your corporate social investment can help the community. Let's elect a structure that will monitor the movements and appoint a task team from these local targeted area and I am ready to lead such a movement.	Thank you for your comments. Your request will again be forwarded to the relevant Gold Fields person.
257	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Vuyisile S. Billy	Private	Scoping Phase	Social and Economic	How am I going to benefit from the project, in terms of job opportunities and conducive living. In terms of heritage, the graveyards shouldn't be removed because it is against culture and tradition. The SPCA should be involved because some animals may be endangered.	Thank you for your comments. The manpower and skills requirements for this project will be determined during the feasibility studies. Only after the finalisation of this, would decisions around these two aspects be taken. Gold Fields' procurement department will have to be approached in respect of registration as a vendor and the supply of products and services, as per internal governance requirements. A Heritage Impact Assessment is being conducted in terms of the National Heritage Resources Act (NHRA), and if there are any impacts on heritage sites such as graveyard, etc., these will be dealt with in terms of the provisions of the NHRA.
258				Scoping Phase	Environmental	The dumping site is too close to the Merafong City Community.	Comment noted. The site selection exercise that is being conducted as part of the EIA process, will inform the final siting of the new proposed centralised TSF.
259	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Mthembeni Ntlokwana	Private	Scoping Phase	Social and Economic	To create jobs for our community. Poverty alleviation.	Thank you for your comments. The manpower and skills requirements for this project will be determined during the feasibility studies.

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294	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Dr Coetzee Badenhorst	Behavioural Health and Human Services	Scoping Phase	Environmental	Concerned about the 2 Mega facilities in the area, Gold Fields and Rand Uranium.	Concern noted. The Environmental Impact Assessment (EIA) process will investigate the different impacts associated with the project, and how to deal with and manage these. These mitigation measures, such as the relocation of fauna and flora if needed, will be contained in an
295				Scoping Phase	Public Participation Process	The structure for the open day was not very appropriate. I felt that it was hijacked by the different interest groups.	Thank you for your comment. If appropriate, this comment will be considered for the next round of public participation.
296	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Barbara Lucy Tyler	Private	Scoping Phase	Access to information	Request for CD	Thank you - a CD was provided.
297	Response form obtained at a Public Meeting	R.D. Badenhorst	Councillor - Merafong City	Scoping Phase	Environmental	Would like to advise the community regarding the following: Sinkholes, Mine dumps, Roads. There is surely some method to neutralize poisonous deposits, example, organic materials.	Comments noted.
298				Scoping Phase	Access to information	Request for CD's X2	Thank you - a CD was provided
299	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Ntombi A. Majola Mogole	Private	Scoping Phase	Social and Economic	My interest is personal because as the CDW working amongst communities I have to disseminate information and explain to communities what the project is about. My concern is job creation and how this project will benefit the unemployed especially youth and women. Preference should be given to those who reside around the identified sites.	Thank you for your comments. The manpower and skills requirements for this project will be determined during the feasibility studies. Only after the finalisation of this, would decisions around these two aspects be taken. Gold Fields' procurement department will have to be approached in respect of registration as a vendor and the supply of products and services, as per internal governance requirements.
300	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Sipho Ncityane	Private	Scoping Phase	Social and Economic	The Westonaria development agency wants to partner with (Gold Fields) to empower communities. This project should be community driven and assist communities to do things for themselves.	Comment noted. This will be forwarded to the relevant Gold Fields person.
301	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Manara Mokoena	Private	Scoping Phase	Social and Economic	Gold Fields should help people who are vulnerable as most people don't know about heritage and they don't understand their own culture. To help CHBC to help other people if Gold Fields can give the NGO a chance of running the project, getting help from them. To check the land so that people can do food gardening for them. I would like Gold Fields to help the E.E.A.W&C, because they are dealing with orphans and vulnerable chronic patients. One candidate should visit this project.	Comment noted. This will be forwarded to the relevant Gold Fields person.
302	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Thabiso	Private	Scoping Phase	Social and Economic	Please improve the health facilities in our mines. Please give the project to the community.	Thank you for your comment.
303	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Malibongwe Msukwini	Private	Scoping Phase	Social and Economic	Concern that crime has increased in the community. We wish that Gold Fields can create jobs so that crime will decrease in our location because criminals will have a job and they will stop the crime. There are no jobs in our location so we wish that Gold Fields can create more jobs so that unemployed people can be employed.	Thank you for your comments. The manpower and skills requirements for this project will be determined during the feasibility studies. Only after the finalisation of this, would decisions around these two aspects be taken. Gold Fields' procurement department will have to be approached in respect of registration as a vendor and the supply of products and services, as per internal governance requirements.

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314	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Sam Tholwana	Private	Scoping Phase	Social and Economic	To lease bakkies to the project and assist in the recruitment of personnel. Health issues should be budgeted in accordance. You would remember what the asbestos mine cause.	Health issues regarding air quality, water quality and radiation are being considered/assessed in terms of the impact assessment. Rehabilitation of the "old" TSF footprints will take place at a later stage. In terms of the lease of bakkies to the project and recruitment of personnel: The manpower and skills requirements for this project will be determined during the feasibility studies. Only after the finalisation of this, would decisions around these two aspects be taken. Gold Fields' procurement department will have to be approached in respect of registration as a vendor and the supply of products and services, as per internal governance requirements.
315	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Siphango Paulus Mnyele	Private	Scoping Phase	Social and Economic	We can benefit from purified water. There may be graves on top of the ground where pipelines are located, need to consult with families regarding this.	Thank you for your comment. The Heritage Impact Assessment practitioner will look into this. The relocation of graves, if needed, will be done with consent from family, with the utmost respect and in accordance with the requirements of the National Heritage Resources Act (NHRA).
316				Scoping Phase	Public Participation Process	Involve communities in consultations	Comment noted. The public participation process is designed to ensure that communities and Interested & Affected Parties (I&APs) are involved in the EIA process and hence the project. In terms of other interaction with the community, Gold Fields attends monthly meetings with the Municipality regarding Social & Labour Plan (SLP) issues, and community meetings called by the ward councillors, if and when required to do so.
317	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Thulane Scholo	Private	Scoping Phase	Social and Economic	Employment	Comment noted. The manpower and skills requirements for this project will be determined during the feasibility studies. Only after the finalisation of this, would decisions around these two aspects be taken.
318	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Samuel Mokaedi	Private	Scoping Phase	Social and Economic	My fellow countrymen to be empowered through this project. If the project is approved, the communities should be involved. Don't want politicians involved.	Comment noted - thank you. The public participation process is designed to ensure that communities and Interested & Affected Parties (I&APs) are involved in the EIA process and hence the project. In terms of other interaction with the community, Gold Fields attends monthly meetings with the Municipality regarding Social & Labour Plan (SLP) issues, and community meetings called by the ward councillors, if and when required to do so.
319	Response form obtained at a	Johanna Borokelo	Private	Scoping Phase	Social and Economic	Better life for all and to create jobs. We need improvement in our community.	Comment noted - thank you.
320				Scoping Phase	Environmental	Clean environment for the next generation	Comment noted - thank you.
321	Response form obtained at a Public Meeting and Open Day - 15 August 2009	Ms Cynthia Hlanganyana	Private	Scoping Phase	Social and Economic	To support the group of 90 unemployed youth, women, dealing with environmental issues (financially). Interested in the second phase and reinvest in the community.	Comment noted - thank you.
322				Scoping Phase	Public Participation Process	Consultation and documents will make our lives easier.	Comment noted - thank you. The public participation process is designed to ensure that communities and Interested & Affected Parties (I&APs) are involved in the EIA process and hence the project. In addition, EIA documentation is being made available as and when required.

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383	Public Meeting 15 August 2009	Thabiso Monyatsi	Private	Scoping Phase	Legislation	Expressed concern that the environmental drive (of this project) excludes a number of legislative imperatives that come from the Mineral and Petroleum Resources Development Act. He explained further that this Act has been aligned with National Environmental Directives. Thabiso Monyatsi asked if there should be a joint competent authority that comes from the Department of Minerals as well as the Department of Environmental Affairs and Water affairs. That is, the competent authority should be a grouping of both the authorities, Department of Minerals and the Department of Environmental Affairs.	Different regulatory approvals processes are followed in accordance with the requirements of the various pieces of legislation. Four regulatory approvals process are being followed for this particular project, each with its own competent authority. Gold Fields however, is engaging all of these authorities, in an effort to co-ordinate and integrate, and to ensure that no duplication occurs.
384	Public Meeting 15 August 2009	Bongani	Private	Scoping Phase	Legislation	Enquired about the necessary legal requirements in terms of water purification.	There could be a myriad of legislation applicable to water purification. Some of the applicable legislation would be: National Water Act (1998), Water Services Act (1998), permit conditions emanating from these pieces of legislation; SANS standards and guidelines, Occupational Health & Safety Act, the National Nuclear Regulator Act, Hazardous Substances Act, etc., etc.
385	Email - West Wits Project 18 August 2009	Thabiso Monyatsi	Private	Scoping Phase	Project Process	As per our conversation after the public meeting, we are willing to assist the West Wits Project processes through our understanding of the socio-economic conditions. We are of the opinion that a Win-Win solution between Shareholders, Ecology and the Community is a desired shared outcome. Our commitment to the mutual development of our community is our motivation and we are willing to assist and advise at no expectation of payment.	Thank you for your comment.
386	Question put forth to Specialist at Open Day 15 August 2009	Reiner Terblanche	Anthene Ecological cc	Scoping Phase	Environmental Social and Economic	There was a lady on Saturday (public meeting) who spoke about a cleaning-operations project. I told her that such cleaning-up project is to be commended and also to be recommended from an ecological point of view, but that I could not make decisions (or take any management actions) about their project. Most other questions revolved around the possible threatened species and the importance of ecological studies, and one farmer had important info on possible threatened or near-threatened succulents in the area (helpful). One lady made the comment that the frogs etc. at the water course near them are absent in recent years (this implicate that if so, the actual impact(s) causing this, happened before the present possible impact). There were also people that want to study biology – the educational aspect appears to be important – know this may be beyond the present scope of our project – but wonder what could be done even if only local people could be directed to take on such studies?	The request around the cleaning operation, has already been forwarded to the relevant Gold Fields person. Insofar as ecological impacts are concerned - the ecological specialist study will investigate the impacts on ecology (=fauna and flora) and also come up with appropriate mitigation measures. Local knowledge on environmental, social and cultural aspects of the area is most welcome, and people are actually encouraged to share this type of information with the EIA team. The issue around the studying of biology and possible assistance around that, will be passed on to the relevant Gold Fields person.
387	Question put forth to Specialist at Open Day 15 August 2009	Dr Robert de Jong	Cultmatrix Heritage Consultants	Scoping Phase	Social and Economic	Questions received at the open day regarded the relocation of people on the sites and compensation for loss of property (homesteads etc.) Is there besides an EIA, a Social Impact Assessment (for this project)?	The EIA (site selection) will determine siting and routing of the new proposed TSF and pipelines respectively. This will to a large extent determine the impact on people and property and will serve as a basis for further investigations and action needed in this regard.

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536	Response form obtained at a Public Meeting and Open Day - 30 January 2010	Solomon Maakane	Private	Impact Phase	Access to Information	EnviroServ must engage with the community and Ulwazi FM through the process. We would like to see the project up and running.	Comment noted. The community was engaged on various levels.
537	Response form obtained at a Public Meeting and Open Day - 30 January 2010	Moleboheng Rantsantsaile	Private	Impact Phase	Social and Economic	There must be job creation because we see the youth around us who are unemployed, so in order to reduce crime, please we really need jobs. I am not comfortable with the waste facility because the children will be harmed if not cleaned properly.	Comment noted. There will be a limited number of job opportunities and other SMME opportunities available during the construction and operation of the proposed project. Gold Fields have a specific procurement/vendor process that must be followed. The new proposed Centralised Tailings Storage Facility (CTSF) will have restricted access.
538	Response form obtained at a Public Meeting and Open Day - 30 January 2010	Herman Mogagabe	Private	Impact Phase	Social and Economic	I will be glad if I can be assisted by you with a painting and building contract - sandblasting. I will be glad if I can be assisted financially since I don't have enough to run the company.	Comment noted. There will be a limited number of job opportunities and other SMME opportunities available during the construction and operation of the proposed project.
539	Response form obtained at a Public Meeting and Open Day - 30 January 2010	Malepa G. Mpongo	Private	Impact Phase	Social and Economic	I am happy to speak about a job on the Gold Fields project. Hopefully this year things will be better, we will see ourselves in a better light.	Comment noted. There will be a limited number of job opportunities and other SMME opportunities available during the construction and operation of the proposed project.
540	Response form obtained at a Public Meeting and Open Day - 30 January 2010	Paul	Private	Impact Phase	Social and Economic	Creating jobs and projects for our community. Teaching them a healthy life style and heritage. The removal of graves would be a problem for our culture.	Comment noted. There will be a limited number of job opportunities and other SMME opportunities available during the construction and operation of the proposed project. If needed, graves will be removed in accordance with the requirements of the Heritage Resources Act. Both an archaeologist and a professional undertaker will have to be appointed by Gold Fields to assist with this task. Part of the process, is to locate and inform relatives of the deceased about the plans to remove the grave, and to allow the family to be part of the reburial process.
541	Response form obtained at a Public Meeting and Open Day - 30 January 2010	Sebongile Khoza	Private	Impact Phase	Social and Economic	Work and be financially independent. To be a part of the project in my location.	Gold Fields has started with the rolling-out of a stakeholder engagement strategy, during which discussions/engagements with various stakeholders will be done.
542	Response form obtained at a Public Meeting and Open Day - 30 January 2010	Mado Mabaso	Private	Impact Phase	Social and Economic	Give people employment and get them interested in a brighter future. This is a good project and it shows potential to employ people. This is why there is an involvement of community in their processes. Come to the communities to see and hear all about their intentions.	Thank you for your positive comments. There will be a limited number of job opportunities and other SMME opportunities available during the construction and operation of the proposed project. Gold Fields has started with the rolling-out of a stakeholder engagement strategy, during which discussions/engagements with various stakeholders will be done.
543	Response form obtained at a Public Meeting and Open Day - 30 January 2010	Mantsho Moloentoa	Private	Impact Phase	Social and Economic	My issues are that; we the youth do not have jobs and that Khutsong has sinkholes.	Gold Fields has started with the rolling-out of a stakeholder engagement strategy, during which discussions/engagements with various stakeholders will be done. The project will not contribute to sinkhole formation in Khutsong.

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551	Public Meeting 30 January 2010	Participant	Unknown	Impact Phase	Project Process	Enquired as to what would happen should the project be turned down by government.	Charlaine Baartjes responded by explaining that if government turns the project down, everything stays the way it is, however the Mine still needs to apply for closure and that would still need to be addressed and they would have to come up with new plans.
552	Public Meeting 30 January 2010	Sibusiso Nhlapho	Unknown	Impact Phase	Social and Economic	There is a lack of information pertaining to the impact this project will have on HIV/AIDS as well as crime and other social amenities.	Charlaine Baartjes responded by stating that in terms of HIV/AIDS, crime and social amenities these issues have been addressed in the Social Impact Assessment (SIA).
553						Vagueness of how Small Medium and Micro Enterprises (SMME) would benefit from the proposed project. He provided an example of when he called Gold Fields to request a vendor number and was told that in order for him to get a vendor number he must have a contract that is offered to him by an internal company within Gold Fields. His concern thus lies in the fact that SMME's	Gold Fields have a specific vendor registration process to be followed, and this process will have to be explained in detail to any potential vendor.
554						The fact that Gold Fields does not recognise the community as equal and valuable partners in the proposed project. He enquired about how the disadvantaged members of the local communities would benefit if current employees of Gold Fields would be used in the project.	Comment noted.
555	Public Meeting 30 January 2010	Thabiso	Private	Impact Phase	Social and Economic	Enquired as to whether any graves have been discovered at the proposed site and if so, how would these graves be dealt with?	Charlaine Baartjes informed stakeholders that no graves had been found on the TSF site. She explained that in terms of the Heritage Impact Assessment, it was discovered that people lived in this area about a thousand years ago and their remains are known as Iron Age sites. She assured the IAP that these Iron Age sites would be documented.
556	Public Meeting 30 January 2010	Paul Ncwane	Private	Impact Phase	Social and Economic	He requested that unemployment figures be recorded in the report. An appeal was made for Gold Fields to do away with its age limit requirement for job applicants. He urged Gold Fields to assist local communities by employing youth in the area who have completed school yet remain unemployed and turn to crime. He expressed concern at the fact that the majority of attendants at the public meeting are Black, however there are no Black members on Gold Fields team.	<ul style="list-style-type: none"> • In response Charlaine Baartjes stated: <ul style="list-style-type: none"> o That the unemployment rate of the area has been recorded in the social component of the report, in Chapter 13. o In terms of women and employment, age and employment as well as the lack of Black members in the Gold Fields team, Charlaine Baartjes emphasised that she is the EAP and therefore cannot comment on those issues. She added that she was at the meeting as an independent assessor and therefore cannot speak for Gold Fields on their behalf. She explained that participants were welcome to take up issues with Gold Fields, however the aim of the meeting was to discuss the findings of the report.
557	Public Meeting 30 January 2010	Participant	Unknown	Impact Phase	Social and Economic	He stated that most people were concerned about how the proposed project would advance the social quality of their lives, that is, how would this project "release them from the slavery of poverty". He stated that although the presentation illustrated that at the last meeting 54 percent of people spoke of the issue of employment and unemployment, he believes this figure to be much more because every person who commented wanted to know how this project would assist them economically. He raised the concern regarding employment and whether there would be any benefit for members of the community. With regards to SMME's, it was requested that participants require clarity in terms of the 'homework' which needs to be done by SMME's in order to ensure business from the Mine.	<p>This proposed project will extend the life of mine. This in itself will bring opportunities. It will also provide limited job opportunities and SMME opportunities.</p> <p>The presentation considered all participant to the Public Participation Process, not only the public meeting, the 54 % is accurate. There will be limited opportunities.</p> <p>Gold Fields have a specific vendor registration process to be followed, and this process will have to be explained in detail to any potential vendor.</p>
558	Public Meeting 30 January 2010	Tshepo	Unknown	Impact Phase	Social and Economic	Raised a concern regarding opportunities for the youth in the area. He explained that many companies require a job applicant to have experience before being considered for employment. However, experience cannot be acquired without mentorship and leadership programmes. Thus, a request was made to Gold Fields to consider creating these kinds of programmes to encourage employment.	Comment noted

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608					Environmental	Great part of Agricultural and Farming land will highly affected by the project, therefore comments from the Department of Agriculture and Forestry must also be considered before approval of the project.	GDARD (agriculture) is a commenting authority.
609					Public Participation Process	All issues raised by Interested and Affected Parties must be satisfactory addressed in accordance with the principles of NEMA, 108 of 1998 and EIA Regulations.	See the comments and response table
610					Social and Economic	Heritage studies conducted indicated that the study area has some heritage importance to the community, therefore comments from SAHRA must also be considered in approval of such a development.	SAHRA approval is also requested
611					Access to Information	Adjacent landowners to the proposed project location should be informed of the development prior to commencement.	Landowners were informed
612	Fax 17 February 2010	Ms N.J Simpson	Private	Impact Phase	Public Participation Process Land Purchases Project Process Environmental Social and Economic Site Selection Ethics and Trust	Refer to addendum.	All comments received from Mrs Simpson was included in the Comments and response table in writing. An individual meeting was set up with Mrs Simpson, but she could not make it. Response on "Point One": The Doornpoort project was approved and does not form part of the scope of this project. Response on "Polluted Rivers": The impact assessments in its totality is published in the reports provided for public comment. All results are listed. Response on "Objection to Tailings dam -": The law states that a developer must do an impact assessment prior to development, not prior to the purchasing of land. The site selection was done according to the legal requirements Response on "Safety and Security": This point will be given through to Gold Fields in order for them to investigate. The entire comment is attached as an appendix as requested.
613	Response form obtained from Poortjie Library - 19 February 2010	Molefi Malebo	Private	Impact Phase	Environmental	Gold Fields West Wits is fully supported to address issues of environment that will have negative impact in communities that has identified. I suggest the project to be sustainable and supported to realise and adhere Environmental act and coming up with Environmental Management Systems that will guide the projects.	Thank you for the positive comment. We agree, adherence to environmental requirements is important and usually easier if managed through an Environmental Management System.
614	Response form obtained from	Pasallo Mokoena	Business	Impact Phase	Environmental	We concentrated on major locations that affect our business / community. Endangered species especially the Highveld Blues. Due to wetlands and	Thank you for your comment. The impact on the surface water (dams) in the area will be very limited as water is contained on site. Agreed, when all
615	Fax 19 February 2010	Thabiso Monyatsi	Merafong Community Mining Forum	Impact Phase	Social and Economic	Merafong Community Mining Forum is an organisation that seeks to promote the interests of Merafong City communities with respect to socio-economic sustainability of the area beyond the lifespan of mining. We exist to offer a forth pillar of community partnership in the tripartite alliance of Government, Labour and Mining Houses. Our primary interest is to ensure that Mining Houses respond positively to the Hosting Communities development mandate as prescribed in the Minerals and Petroleum Resources Development Act of 2002 and the Mining Empowerment Charter. In this respect we are resolved that community based accountability of Mines Social Plans is critical for mutual benefit of the mining industry and communities that host mines. This response will speak directly to the findings and recommendations of the Draft Impact Report and most importantly it will highlight the recommendations of the Forum. We trust that our submission will be accepted in good-faith and the final outcomes will address key socio-economic and environmental challenges of the West Rand Region.	Comment noted. The submission was accepted in good-faith. Thank you for your effort and the positive tone in which you seek to facilitate future solutions.

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620						Finding 38 and 39 and its recommendations were quoted. The following was raised: In interest tourism in the area we recommend that the two Iron Age sites should be preserved as is and a professional documentation of these sites must be undertaken with the view of enlisting the sites as national heritage sites. We further support a separate Heritage Impact Assessment process that must be undertaken to ensure that the pipeline design takes the outcomes of the assessment into account. The outcomes of the assessment report should inform the Heritage Conservation Management Plan.	Thank you valid point, we agree.
621						<p>Finding 40, 41 and 42 and its recommendations were quoted. The following was raised: On this subject we differ fundamentally differ with a view that suggests that the expectations of the communities must be managed through some sort of PR exercise. We therefore make the following recommendations.</p> <ol style="list-style-type: none"> 1. A 60/40 employment quota in favour of residents of Westonaria and Merafong City must imposed on all new recruitments for the project by all parties including independent contractors to the project. 2. We propose a 40% local procurement programme for contractors and other role players in the project. 3. We propose further that consented effort with regards to the development of Black owned SMMEs. 4. We further recommend that 50 learnership opportunities be created through this Project as a means for skills development. 5. We further recommend that Merafong Community Mining Forum and other organised interested community organisations to serve as community liaison structures for the project for continuous engagement. 6. We recommend that no labour broking contractors should used in this project. 7. We also propose a Social Plan that will include schools infrastructure improvement specifically on the subject of Schools Libraries, Computer Labs and Science Labs in the Westonaria and Merafong City area. 8. We wish to lastly call for an SMME open day to outline the tendering opportunities prior to the commencement of the Project. 	<p>Thank you for your comment. Unrealistically high expectations, typical from large projects (like this one), create many negative social and environmental impacts and the management of expectation is not a PR exercise, but a necessary part of impact mitigation.</p> <p>Response to points 1, 2, 3, 4, and 7. The central focus of the Social and Labour Plan (SLP) is primarily concerned with employment, procurement capacity, skills development and infrastructure development. this will be in partnership with all spheres of government.</p> <p>Response to point 5: Please note the recommendation you have quoted states that an effective channel of communication should be established.</p> <p>Response to point 6: Gold Fields define "contractors or service providers" as "labour –hire companies, contracting companies and/or individual contractors. As such, Gold Fields HR Policy on the employment of contractors will apply, which is applicable to "...to all contractors (companies or individuals) and service providers utilised by any Group Operation, Service Organisation or Corporate Office." As per the policy, Contractors must be informed of all relevant company policies, procedures and rules and must agree to align with and/or abide by these. Where appropriate, compliance with these guidelines and requirements may form part of the procurement decision.</p> <p>Response to points 3 and 8. Your comment about the SMME open day is appreciated. The SLP process facilitates development of SMMEs. Gold Fields Shared Services division manages the vendor registration process. Based on the need and interest for such an intervention, Gold Fields will investigate and consider such, or a similar kind of intervention. Such an intervention will provide a platform to explore synergies and opportunities, as well as to clarify requirements around vendor registration and other related aspects.</p>